

SECURITY CLASSIFICATION

AD-A238 988



ACTION PAGE

Form Approved
OMB No. 0704-0188

1a. REPORT SECURITY CLASSIFICATION N/A			1b. RESTRICTIVE MARKINGS N/A		
2a. SECURITY CLASSIFICATION AUTHORITY N/A			3. DISTRIBUTION/AVAILABILITY OF REPORT Unclassified/Unlimited		
2b. DECLASSIFICATION/DOWNGRADING SCHEDULE N/A					
4. PERFORMING ORGANIZATION REPORT NUMBER(S) 1-87			5. MONITORING ORGANIZATION REPORT NUMBER(S)		
6a. NAME OF PERFORMING ORGANIZATION Headquarters Joint Military Medical Command		6b. OFFICE SYMBOL (If applicable) HQ JMMC/CS	7a. NAME OF MONITORING ORGANIZATION U.S. Army-Baylor University Graduate Program in Health Care Administration		
6c. ADDRESS (City, State, and ZIP Code) Randolph AFB, TX 78150-6189			7b. ADDRESS (City, State, and ZIP Code) Academy of Health Sciences, U.S. Army Fort Sam Houston, TX 78234-6100		
8a. NAME OF FUNDING/SPONSORING ORGANIZATION		8b. OFFICE SYMBOL (If applicable)	9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER		
8c. ADDRESS (City, State, and ZIP Code)			10. SOURCE OF FUNDING NUMBERS		
			PROGRAM ELEMENT NO.	PROJECT NO.	TASK NO.
			WORK UNIT ACCESSION NO.		
11. TITLE (Include Security Classification) A Study to Determine Demand for Health Care Services in the Catchment Area of the Joint Military Medical Command - San Antonio, Texas					
12. PERSONAL AUTHOR(S) Burke, Max D., Captain, USAF, MSC					
13a. TYPE OF REPORT Final		13b. TIME COVERED FROM 7/89 TO 7/90		14. DATE OF REPORT (Year, Month, Day) 1990, July, 27 - 90/07/27	
				15. PAGE COUNT 188	
16. SUPPLEMENTARY NOTATION					
17. COSATI CODES			18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)		
FIELD	GROUP	SUB-GROUP	Health care demand, incidence rates, analysis of variance, demographics, utilization		
19. ABSTRACT (Continue on reverse if necessary and identify by block number)					
<p>The Joint Military Medical Command - San Antonio is responsible for the delivery of all military medical care in the San Antonio catchment area. With this task comes the responsibility to effectively and efficiently allocate resources for providing services. Because of the magnitude and importance of this responsibility, a planning tool has been developed, in the form of a conceptual model, to serve as a decision support mechanism. This mechanism guides resource allocations by predicting demand for health care services.</p> <p>The model incorporates a four-step process for determining demand. In Step 1., service utilization is determined. Step 2. involves the identification of the population who use health services and the establishment of the population mix. Population mix is composed of the demographic factors specific to the population. Age, family income, and sex, were specifically evaluated here. With utilization and population data, incidence rates are computed. Then in Step 3., using the incidence rates computed in Step 2., future demand is forecast by regressing the average yearly change in population mix and associated incidence rates into</p>					
20. DISTRIBUTION/AVAILABILITY OF ABSTRACT <input checked="" type="checkbox"/> UNCLASSIFIED/UNLIMITED <input type="checkbox"/> SAME AS RPT <input type="checkbox"/> DTIC USERS			21. ABSTRACT SECURITY CLASSIFICATION N/A		
22a. NAME OF RESPONSIBLE INDIVIDUAL Captain Max D. Burke, USAF, MSC			22b. TELEPHONE (Include Area Code) (512) 545-4349		22c. OFFICE SYMBOL WHMC/SGA

19. ABSTRACT (Continued)

future years. The final step is to periodically determine which demographic factors can be used as predictors of health care demand. ⁴ This step insures that the demographic factors being used as predictors of demand are, statistically, good indicators of demand.

The employment of this model for the San Antonio area reveals that outpatient demand will increase at an average yearly rate of almost 4 percent at the military clinics and that the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS) visits will increase by about 93 percent per year through 1994. Demand for inpatient services from military hospitals is projected to decline by about 4 percent per year while CHAMPUS admissions increase by about 30 percent per year. The model also quantified out-migration or "ghost services" use for the year May 1988 - April 1989. Ghost services use was estimated to be 54 percent more than CHAMPUS use for outpatient visits and 327 percent more than CHAMPUS in terms of admissions.

Three demographic factors, tested by Analysis of Variance (ANOVA), were found to be significant indicators of health services demand under disparate conditions. Age and sex were always significant indicators for pediatric and obstetrics/gynecology demand, as expected. In general terms, CHAMPUS inpatient care is associated with the income level of the family. Use of military facilities, both as inpatients and outpatients, is associated with age. The use of ghost outpatient services is associated with the family income and age.

A STUDY TO DETERMINE DEMAND FOR HEALTH CARE SERVICES
IN THE CATCHMENT AREA OF THE JOINT MILITARY MEDICAL COMMAND
SAN ANTONIO, TEXAS

"REPRODUCED AT GOVERNMENT EXPENSE"

A Graduate Management Project
Submitted to the Faculty of
Baylor University
In Partial Fulfillment of the
Requirements for the Degree
of
Master of Health Administration
by
Captain Max D. Burke, USAF, MSC
December 1990

Approved For	
1. <input checked="" type="checkbox"/> 2. <input type="checkbox"/>	
3. <input type="checkbox"/> 4. <input type="checkbox"/>	
5. <input type="checkbox"/> 6. <input type="checkbox"/>	
7. <input type="checkbox"/> 8. <input type="checkbox"/>	
9. <input type="checkbox"/> 10. <input type="checkbox"/>	
11. <input type="checkbox"/> 12. <input type="checkbox"/>	
13. <input type="checkbox"/> 14. <input type="checkbox"/>	
15. <input type="checkbox"/> 16. <input type="checkbox"/>	
17. <input type="checkbox"/> 18. <input type="checkbox"/>	
19. <input type="checkbox"/> 20. <input type="checkbox"/>	
21. <input type="checkbox"/> 22. <input type="checkbox"/>	
23. <input type="checkbox"/> 24. <input type="checkbox"/>	
25. <input type="checkbox"/> 26. <input type="checkbox"/>	
27. <input type="checkbox"/> 28. <input type="checkbox"/>	
29. <input type="checkbox"/> 30. <input type="checkbox"/>	
31. <input type="checkbox"/> 32. <input type="checkbox"/>	
33. <input type="checkbox"/> 34. <input type="checkbox"/>	
35. <input type="checkbox"/> 36. <input type="checkbox"/>	
37. <input type="checkbox"/> 38. <input type="checkbox"/>	
39. <input type="checkbox"/> 40. <input type="checkbox"/>	
41. <input type="checkbox"/> 42. <input type="checkbox"/>	
43. <input type="checkbox"/> 44. <input type="checkbox"/>	
45. <input type="checkbox"/> 46. <input type="checkbox"/>	
47. <input type="checkbox"/> 48. <input type="checkbox"/>	
49. <input type="checkbox"/> 50. <input type="checkbox"/>	
51. <input type="checkbox"/> 52. <input type="checkbox"/>	
53. <input type="checkbox"/> 54. <input type="checkbox"/>	
55. <input type="checkbox"/> 56. <input type="checkbox"/>	
57. <input type="checkbox"/> 58. <input type="checkbox"/>	
59. <input type="checkbox"/> 60. <input type="checkbox"/>	
61. <input type="checkbox"/> 62. <input type="checkbox"/>	
63. <input type="checkbox"/> 64. <input type="checkbox"/>	
65. <input type="checkbox"/> 66. <input type="checkbox"/>	
67. <input type="checkbox"/> 68. <input type="checkbox"/>	
69. <input type="checkbox"/> 70. <input type="checkbox"/>	
71. <input type="checkbox"/> 72. <input type="checkbox"/>	
73. <input type="checkbox"/> 74. <input type="checkbox"/>	
75. <input type="checkbox"/> 76. <input type="checkbox"/>	
77. <input type="checkbox"/> 78. <input type="checkbox"/>	
79. <input type="checkbox"/> 80. <input type="checkbox"/>	
81. <input type="checkbox"/> 82. <input type="checkbox"/>	
83. <input type="checkbox"/> 84. <input type="checkbox"/>	
85. <input type="checkbox"/> 86. <input type="checkbox"/>	
87. <input type="checkbox"/> 88. <input type="checkbox"/>	
89. <input type="checkbox"/> 90. <input type="checkbox"/>	
91. <input type="checkbox"/> 92. <input type="checkbox"/>	
93. <input type="checkbox"/> 94. <input type="checkbox"/>	
95. <input type="checkbox"/> 96. <input type="checkbox"/>	
97. <input type="checkbox"/> 98. <input type="checkbox"/>	
99. <input type="checkbox"/> 100. <input type="checkbox"/>	

91-04197



TABLE OF CONTENTS

	PAGES
ABSTRACT	1
CHAPTER.	
I. INTRODUCTION.	
Background.	3
Problem Statement	5
Literature Review	5
II. Methods and Procedures.	18
Population Description.	19
Relationship of Population to Utilization.	20
The Demand Model.	27
III. RESULTS	29
Objective Utilization	29
Subjective Utilization	37
Utilization Comparisons	40
Total Demand.	43
Incidence Rates	44
Projected Demand.	47
Analyses of Variance	49
IV. DISCUSSION.	63
Quantifying and Relating Demand to Population Mix.	63
Projecting Demand	65
Analysis of Variance.	66
V. CONCLUSION.	69
VI. REFERENCES.	70
LIST OF TABLES	
Table 1. JMMC Population	73
Table 2. Projected JMMC Population	74
Table 3. JMMC MTF Outpatient Medical Category (Visits)	75
Table 4. JMMC MTF Outpatient Surgical Category (Visits)	76
Table 5. JMMC MTF Outpatient Psychiatry Category (Visits)	77
Table 6. JMMC MTF Outpatient Pediatric Category (Visits)	77

Table 7.	JMMC MTF Outpatient Obstetrics and Gynecological (OB/GYN) Category (Visits)	78
Table 8.	JMMC MTF Outpatient Orthopedics Category (Visits)	78
Table 9.	JMMC MTF Inpatient Admissions Medical Category.	79
Table 10.	JMMC MTF Inpatient Admissions Surgical Category	80
Table 11.	JMMC MTF Inpatient Psychiatric Care Category (Admissions)	81
Table 12.	JMMC MTF Inpatient Pediatric Category (Admissions)	81
Table 13.	JMMC MTF Inpatient Obstetrical and Gynecological (OB/GYN) Category (Admissions).	82
Table 14.	JMMC MTF Inpatient Orthopedic Category (Admissions)	82
Table 15.	CHAMPUS Utilization	93
Table 16.	CHAMPUS Outpatient Medical Category (Visits).	84
Table 17.	CHAMPUS Outpatient Surgical Category (Visits).	85
Table 18.	CHAMPUS Outpatient Psychiatry Category (Visits)	85
Table 19.	CHAMPUS Outpatient Pediatrics Category (Visits)	85
Table 20.	CHAMPUS Outpatient Obstetrical and Gynecological (OB/GYN) Category (Visits).	86
Table 21.	CHAMPUS Outpatient Orthopedics Category (Visits)	86
Table 22.	CHAMPUS Inpatient Medical Category (Admissions).	87
Table 23.	CHAMPUS Inpatient Surgical Category (Admissions).	87
Table 24.	CHAMPUS Inpatient Obstetrical/ Gynecological Category (OB/GYN) Cat. (Admissions).	88
Table 25.	CHAMPUS Inpatient Psychiatry Category (Admissions).	88
Table 26.	CHAMPUS Inpatient Pediatric Category (Admissions).	89
Table 27.	CHAMPUS Inpatient Orthopedic Category (Admissions).	89
Table 28.	1987 Total JMMC Outpatient Demand (Visits).	90
Table 29.	1988 Total JMMC Outpatient Demand (Visits).	91
Table 30.	1989 Total JMMC Outpatient Demand	

	(Visits)	92
Table 31.	1987 Total JMMC Inpatient Demand (Admissions)	93
Table 32.	1988 Total JMMC Inpatient Demand (Admissions)	94
Table 33.	1989 Total JMMC Inpatient Demand (Admissions)	95
Table 34.	Subjective Utilization - Outpatient Visits	96
Table 35.	Subjective Utilization - Outpatient Incidence Rates Visits	96
Table 36.	Total Subjective Utilization for Outpatient Visits (Applies to Pop. 174,665)	97
Table 37.	Subjective Utilization - Inpatient Admissions	98
Table 38.	Subjective Utilization - Inpatient Incidence Rates	98
Table 39.	Total Subjective Utilization for Inpatient Admissions	99
Table 40.	Comparisons of Objectively & Subjectively Reported Utilization Outpatient Visits	100
Table 41.	Comparisons of Subjectively and Objectively Reported Utilization Inpatient Admissions	101
Table 42.	Total JMMC Outpatient Demand for 1989 (Visits)	102
Table 43.	Total JMMC Outpatient Demand for 1989 (Visits) (Applying Perceptual Error Factor)	102
Table 44.	Total JMMC Inpatient Demand for 1989 (In Admissions)	103
Table 45.	Total JMMC Inpatient Demand for 1989 (In Admissions) (Applying Perceptual Error Factor)	103
Table 46.	JMMC MTFs Outpatient Incidence Rates Medical Category	104
Table 47.	JMMC MTFs Outpatient Incidence Rates Surgical Category	105
Table 48.	JMMC MTFs Outpatient Incidence Rates Psychiatry Category	106
Table 49.	JMMC MTFs Outpatient Incidence Rates Obstetrics and Gynecological (OB/GYN) Category	106
Table 50.	JMMC MTFs Outpatient Incidence Rates Orthopedics Category	107
Table 51.	JMMC MTFs Outpatient Incidence Rates Pediatrics Category	107
Table 52.	Total JMMC Outpatient Incidence Rates	

	(Admissions Per Member Year)	108
Table 53.	JMMC MTFs Inpatient Incidence Rates All Subcategories	108
Table 54.	CHAMPUS Outpatient Incidence Rates - Medical Category	109
Table 55.	CHAMPUS Outpatient Incidence Rates - Surgical Category	110
Table 56.	CHAMPUS Outpatient Incidence Rates - Obstetrical/Gynecological (OB/GYN) Category	111
Table 57.	CHAMPUS Outpatient Incidence Rates - Psychiatry Category	111
Table 58.	CHAMPUS Outpatient Incidence Rates - Pediatric Category	112
Table 59.	CHAMPUS Outpatient Incidence Rates - Orthopedics Category	112
Table 60.	CHAMPUS Outpatient Incidence Rates . .	113
Table 61.	CHAMPUS Inpatient Incidence Rates - Medical Category	114
Table 62.	CHAMPUS Inpatient Incidence Rates Admissions	115
Table 63.	Total CHAMPUS Inpatient Incidence Rates	116
Table 64.	Total Outpatient Incidence Rates . .	116
Table 65.	Total Inpatient Incidence Rates . .	117
Table 66.	Projected Outpatient Incidence Rates	118
Table 67.	Projected Outpatient Demand (Visits)	119
Table 68.	Projected Inpatient Incidence Rates	120
Table 69.	Projected Inpatient Demand (In Admissions)	121
Table 70.	Analysis of Variance CHAMPUS Medical Visits	122
Table 71.	Analysis of Variance CHAMPUS Surgical Visits	124
Table 72.	Analysis of Variance CHAMPUS OB/GYN Visits	126
Table 73.	Analysis of Variance CHAMPUS Psych.	128
Table 74.	Analysis of Variance CHAMPUS Peds. (Visits)	130
Table 75.	Analysis of Variance CHAMPUS Ortho. Visits	132
Table 76.	Analysis of Variance JMMC MTFs Medical Visits	134
Table 77.	Analysis of Variance JMMC MTFs Surgical Visits	136
Table 78.	Analysis of Variance JMMC MTFs OB/GYN Visits	138
Table 79.	Analysis of Variance JMMC MTFs	

	Psychiatry Visits	140
Table 80.	Analysis of Variance JMMC MTFs Pediatrics Visits	142
Table 81.	Analysis of Variance JMMC MTFs Orthopedics Visits.	144
Table 82.	Analysis of Variance Ghost Medical Visits.	146
Table 83.	Analysis of Variance Ghost Surgical Visits.	148
Table 84.	Analysis of Variance Ghost OB/GYN Visits.	150
Table 85.	Analysis of Variance Ghost Psychiatry Visits	152
Table 86.	Analysis of Variance Ghost Pediatric Visits.	154
Table 87.	Analysis of Variance Ghost Orthopedic Visits.	156
Table 88.	Analysis of Variance CHAMPUS Medical Admissions.	158
Table 89.	Analysis of Variance CHAMPUS Surgical Admissions.	160
Table 90.	Analysis of Variance CHAMPUS OB/GYN Admissions.	162
Table 91.	Analysis of Variance CHAMPUS Psychiatry Admissions	164
Table 92.	Analysis of Variance CHAMPUS Pediatric Admissions.	166
Table 93.	Analysis of Variance CHAMPUS Orthopedic Admissions	168
Table 94.	Analysis of Variance JMMC MTFs Medical Admissions.	170
Table 95.	Analysis of Variance JMMC MTFs Surgical Admissions	172
Table 96.	Analysis of Variance JMMC MTFs OB/GYN Admissions	174
Table 97.	Analysis of Variance JMMC MTFs Psychiatry Admissions	176
Table 98.	Analysis of Variance JMMC MTFs Pediatric Admissions.	178
Table 99.	Analysis of Variance JMMC MTFs Orthopedic Admissions	180
APPENDIX		181
A.	Health Services Utilization Survey	182
B.	Survey Approval Letter	190
C.	Listing of 29 Medical Specialties.	192

Abstract

The Joint Military Medical Command - San Antonio is responsible for the delivery of all military medical care in the San Antonio catchment area. With this task comes the responsibility to effectively and efficiently allocate resources for providing services. Because of the magnitude and importance of this responsibility, a planning tool has been developed, in the form of a conceptual model, to serve as a decision support mechanism. This mechanism guides resource allocations by predicting demand for health care services.

The model incorporates a four step process for determining demand. In Step 1, service utilization is determined. Step 2 involves the identification of the population who use health services and the establishment of the population mix. Population mix is composed of the demographic factors specific to the population. Age, family income, and sex were specifically evaluated here. With utilization and population data, incidence rates are computed. Then in Step 3, using the incidence rates computed in Step 2, future demand is forecast by regressing the average yearly change in population mix and associated incidence rates into future years. The final step is to periodically determine which demographic

factors can be used as predictors of health care demand. This step insures that the demographic factors being used as predictors of demand are statistically good indicators of demand.

The employment of this model for the San Antonio area reveals that outpatient demand will increase at an average yearly rate of almost 4 percent at the military clinics and the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS) visits will increase by about 93 percent per year through 1994. Demand for inpatient services from military hospitals is projected to decline by about 4 percent per year while CHAMPUS admissions increase by about 30 percent per year. The model also quantified out-migration or "ghost services" use for the year May 1988 - April 1989. Ghost services use was estimated to be 54 percent more than CHAMPUS use for outpatient visits and 327 percent more than CHAMPUS in terms of admissions.

Three demographic factors, tested by Analysis of Variance (ANOVA), were found to be significant indicators of health services demand under disparate conditions. Age and sex were always significant indicators for pediatric and obstetrics/gynecology demand, as expected. In general terms, CHAMPUS inpatient care is associated with the

income level of the family. Use of military facilities, both as inpatients and outpatients, is associated with age. The use of ghost outpatient services is associated with the family income and age.

Background

The Joint Military Medical Command (JMMC) is a joint servicing activity organized as a multifacility, jointly staffed command created to deliver health care services, provide medical support, and conduct graduate medical education. The San Antonio JMMC is composed of Wilford Hall United States Air Force (USAF) Medical Center, Lackland Air Force Base (including the base dispensary services at Lackland); Brooke Army Medical Center, Fort Sam Houston (including all satellite clinics (excluding the U.S. Army Institute for Surgical Research)); USAF Clinic Brooks, Brooks Air Force Base; USAF Clinic Kelly, Kelly Air Force Base; USAF Clinic Randolph, Randolph Air Force Base; and the U.S. Army Dental Activity, Fort Sam Houston.

The military medical treatment facilities (MTFs) listed above are under the direct command and control of the Headquarters (HQ) JMMC. The JMMC reports organizationally to Headquarters, Air Training Command which has been delegated executive agent operating

authority from the Secretary of the Air Force (Department of Defense Directive 6015.21, Sep 18, 87).

In his 12 June 1986 letter, Sizing of the Replacement Hospital for Fort Sam Houston (Brooke Army Medical Center), to the Secretaries of the Army and Air Force, Dr. William Mayer, Assistant Secretary of Defense for Health Affairs, requested that the Services submit a plan for the operation of Brooke Army Medical Center (BAMC) and Wilford Hall USAF Medical Center (WHMC) as a jointly commanded and staffed armed forces medical center by 15 October 1986.

The JMMC was created with four Office of the Assistant Secretary of Defense for Health Affairs (OASD-HA) stated expectations: (a) to consolidate primary teaching programs to provide a valuable teaching resource for the Department of Defense (DOD); (b) to save military construction program (MCP) money that would otherwise be spent for the construction of a new BAMC of approximately \$250 million; (c) to expand Wilford Hall USAF Medical Center to its full capacity of 1,000 operating beds; and (d) to avoid duplicative services in the San Antonio area (29 July 1987 Memorandum for the Secretary of Defense, San Antonio Joint Military Medical Command (JMMC) - Information Memorandum).

The JMMC is responsible for the delivery of all military medical health care services in the San Antonio area. With this responsibility comes the requisite obligation to effectively and efficiently allocate the resources for providing services.

Problem Statement

The problem of this study is to develop a conceptual model for assessing the demand for health services which can be used as a strategic planning tool for guiding resource allocations.

Literature Review

The military health care system is under increasing pressure to increase access for its beneficiaries. The charge is to recapture workload controlled by the civilian sector and decrease costs. Presently, when other-than-active-duty beneficiaries cannot obtain health care services from the MTFs, they may use the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS). CHAMPUS, an indemnity insurance program intended to supplement health care for active-duty dependents, military retirees, and dependents of retirees, stipulates a copayment and an annual deductible. Dependents of active duty personnel pay a 20 percent copayment, and retired service members and their

dependents pay a 25 percent copayment (Burke, Missler, and Williamson, 1988, unpublished manuscript).

In fiscal year 1987, the Department of Defense cared for 1 million inpatients and had 50 million outpatient visits on a \$12 billion budget. That year, CHAMPUS had expenditures of \$2.2 billion (Simmons, 1989, pg. 114). CHAMPUS costs have been escalating rapidly since 1980 when \$710 million (CBO Study, 1988 Jan.) were spent purchasing care from the civilian sector. While CHAMPUS costs have escalated during recent years, health care costs nationally have also experienced sustained inflation.

Over each of the last 40 years medical care costs have escalated at a rate about 4 percent per year above inflation (Manning, Newhouse, Duan, Keeler, Leibowitz, and Marquis, 1987, p. 251). A prominent explanation for this rapid increase has been that the spread of insurance has induced demand for higher quality and more accessible health care. The rate of increase in spending is often portrayed as a type of market failure induced by public policy.

Because of concerns over sustained expansion of health care costs, the federal government initiated the Rand Health Insurance Experiment (HIE) in 1974. The study's aim was to narrow the uncertainty about how demand

responds to insurance-induced changes in price, and the importance for both public and private decisions in quantifying that response.

Data from the HIE clearly show that the use of medical services responds to changes in the amount paid out-of-pocket by the consumer. The per capita expenses on a medical plan with no out-of-pocket costs were 45 percent higher than those on the plan with a 95 percent coinsurance rate. The study indicated that cost sharing seemed to primarily affect the number of medical contacts, rather than the intensity of each of those contacts. Outpatient expenses on the free plan were 67 percent higher than those on the 95 percent plan, while outpatient visit rates were 66 percent higher. The study found that outpatient-only cost sharing reduced total expenditures relative to free care largely by reducing the likelihood of any use. Outpatient-only cost sharing also reduced inpatient use, but by an insignificant amount (Keeler, et al., 1987, p. 258).

One concern of the Rand researchers (Keeler et al., p. 264) was that the response to insurance coverage could vary according to the complexity of the medical market or to the excess demand in the medical delivery system. This concern was not borne out in the study's results. The

uniformity of response across six test sites gave the researchers reason to believe the results may be representative of the United States.

Of particular interest to the researchers was that the site with the longest delay to appointment and lowest physician to population ratio had the second highest probability of any use, second highest expenditures per enrollee, and the highest probability of any inpatient use. They believe the latter two phenomena may represent substitution of inpatient for outpatient care, and the first may indicate that the presence of emergency rooms removes the constraint of the queue.

The Rand study found a nontrivial, albeit modest, demand response accounted for by the proliferation of health insurance. Between 1950 and 1984, real medical expenditures rose by a factor of 7, but estimates of insurance elasticity only account for one tenth of this increase. The researchers theorize that the explanation of a substantial portion of the expenditure increase is technological expansion. There is a plethora of new medical products and procedures available today that did not exist in 1950. Thus, if insurance is playing a role in inducing a loss in welfare for part of the population, most of that loss must come from its having induced

innovation for which unsubsidized consumers would not be willing to pay (Manning et al., 1987, pg. 269).

Given that the military health care system has come under ever increasing scrutiny to manage resources efficiently, and beneficiary demand is continually increasing, the ability to effectively plan resource allocations has become a necessity. Not only is effective planning required to strategically place resources. It is also required to forcefully justify additional resources for use in underserved areas.

Planning/Forecasting

According to Tauber (1988, p. 8, 9) hospital governing boards must be able to see into the future in order to make sound decisions. They must have the ability to anticipate change and see emerging trends to take advantage of the opportunities in the marketplace. She believes that demographics is the tool that can help board members get that job done. Francese (1988, p. 8) believes that demographic information such as age, sex, race, income, and level of education is crucial for hospital planners. He states that age is the most powerful factor determining the need for health care. Board members must know the age distribution of the population being served and how that distribution is changing.

According to Francese, someone on the hospital staff, such as the planning director, should be designated to monitor demographic data and read the National Center of Health Statistics publications. This person should report to the board, at least once a year, on how the population in the community is changing and how that population is likely to change in the next five to ten years.

Large medical institutions and organizations, such as hospital chains, should have individuals who are responsible for analyzing the broad macrodynamic trends surrounding the organization and for projecting how the trends will affect the organization. These individuals should engage in environmental scanning to determine how these macrodynamic trends will affect the organization and advise on how the organization should deal with them.

Womersley and McCauley (1987, p. 190) advocate the collection of health indicators to present health information to the various communities within the service area of a large health authority in a succinct and compelling form. By doing so, they purport to give managers the information they need to reallocate resources for solving health problems in particular communities in order to reduce inequalities in health.

Hooshang and Beheshti (1988, pg. 13) believe that if the characteristics of a group of health care seekers are known, resource utilization can be determined based on a region's demographics. They believe these characteristics can be determined by surveying the population.

To achieve an equitable distribution of health care resources and services among the population requires an indication of the relative needs of that population. Standard morbidity ratios (SMRs) are often used as a proxy for measuring need. Morgan et al. states that the relatively high level of morbidity experienced by "deprived" populations may not be adequately reflected in their SMRs. Patients who don't receive needed care through the health care system are not adequately reflected in SMRs.

A key factor identified by Morgan et al. (1987, pg. 270) as being responsible for geographical variations in hospital use, both between and within countries, is the availability of hospital beds and manpower. In the United States, the key factors might also be staffed hospital beds and the equitable allocation of resources.

Wennberg, Freeman, and Culp (1987) compared hospital use in Boston and New Haven. Both cities are served mainly by teaching hospitals and have similar demographic

profiles. However, the per capita number of beds is approximately 52 percent higher in Boston. Hospital admission rates for the two cities showed little difference for conditions where the form of treatment is well defined. Admission rate variations occurred primarily for minor medical conditions in which the decision to admit was discretionary, such as for back problems, adult simple pneumonia, adult diabetes, bronchitis and asthma.

Practice style is the third factor influencing utilization. Morgan identified three sets of factors which appeared to explain variations in referral rates: professional attributes, such as medical knowledge and judgement; knowledge of the health care system; and personal style and interaction with patients. One study he references identified the practice style of specialists as a key influence on the number of operations performed.

Service Population and Area

Defining the service population is important because it permits the calculation of use rates which are essential for forecasting. For forecasting future hospital use, hospital utilization is expressed in terms of population served. According to Donabedian (1973, 475) estimation of the service population can be approached in

two different ways: by defining a geographic service area or by inference from market share.

Womersley and McCauley (1987, p. 191) defined service areas into postcodes (the Scottish equivalent to zip codes in this country). The information they used as health indicators was: demographic census information as a description of the population, deaths to calculate death rates, hospital discharges to calculate hospital discharge rates, births, and child health numerator data which consisted of the child register and immunization modules of the national child health record system of Scotland. Using this data, the researchers developed health profiles for communities within a health authority.

Rohrer (1987, p. 158) believes that definition of a geographic area served has several advantages over the service population method. This method allows examination of travel distance and quantities of services delivered and the supply of service-producing units available.

Rohrer listed three options for defining the service area, adapted from Rice and Creel (1985): (1) using the geographic area that is the source of 80 to 85 percent of its admissions; (2) including any small area which contributes at least ten percent of its admissions; and (3) including any small area in which it has at least a

ten percent market share." The different methods of service-area estimation have one thing in common. They relate the utilization of a hospital to the population of a geographic area.

The traditional method that a Veterans Administration (VA) hospital defines a service area is to compute discharge rates by county and assign counties to particular service areas according to a plurality rule. This rule states that the county is assigned to the service area belonging to the hospital from which most of its residents are discharged. With the rule of plurality, counties must also be contiguous to the service area to which they are assigned to prevent holes in the service area. Rohrer considers the plurality-contiguity method a rational approach to defining service areas for the VA.

In the VA system, like the military health care system, all eligible patients do not use the VA system. There is some out-migration which becomes greater with decreases in the comprehensiveness of services. Studies of out-migration in rural settings have made it clear that consumers will travel to find quality medical care (Gould, 1988, p. 17). What consumers consider quality includes such things as ready access to the channel of care, what Donadenian would consider a structural aspect of quality.

Rohrer believes that out-migration will become more popular as hospitals specialize and other methods will become more useful for estimating service populations. Specifically, he thinks that a simple plurality method minus the factor of contiguousness will become more appropriate. Another method that Rohrer considers important is the service population method. Here, no geographic area is defined. Instead, fractions of the population in the counties are assigned to a hospital's service population. The allocation is based on market share.

According to Rohrer, in a health care system which controls out-migration or enjoys a monopoly market position, the discharge rate is an information measure of facility performance. In a competitive market, a discharge rate is less informative. The discharge rate is influenced by the method selected to define service population. Therefore, the accuracy of forecasted discharge rates is dependent on appropriate definition of the service population. Discharge rates can be misleading unless commitment and relevance indexes are also computed. A relevance index measures the facility's share of the

entire district market. Commitment simply measures the degree to which a facility discharges patients to district counties, as opposed to counties outside of the district.

Defining Demand

A hospital's marketing group is responsible for transforming the goals and objectives of the strategic plan into a market basket assessment of what the hospital is producing and what the anticipated or forecasted demand is for the products or services. Demographic data analyses are helpful toward achieving this end. These analyses should include an assortment of independent variables such as age of the service area population, record of past treatments, and competition of other hospitals. Surveys of marketplace perception of needs and potential acceptance of new services will also be useful (Rhyne and Jupp, 1988, p. 21).

Keckley (1988, p.13) offers a three step approach for gauging market share and market demand. First, the unit of measure must be selected. Outpatient visits and hospital discharges are two common units of measure for out- and inpatient services, respectively. Second, the size of the market must be determined. This procedure requires the determination of both the geographic and demographic size of the market and how many medical

procedures (based on incidence rates) that populations need. Keckley considers a hospital's market to be the geographic area from which 80 percent of the discharges originated. For a primary care physician, it is the area where he or she drew 80 percent of all office visits. The third step is to determine regional incidence rates for the services or procedures being studied. With geographic, demographic, and incidence data, both market share and market demand for service can be determined.

Market growth is another critical component of strong strategic planning. Keckley determines market growth by using the population growth rate and changing incidence rates. He recommends using five-year projections of population growth by county or zip code found in many libraries. Incidence rates usually have to be computed based on historical data.

Among the most recent methods for developing utilization based measures of need are the use of spatial interaction models. These models were developed originally to assist in health service planning. They allow planners to predict, mathematically, how proposed changes in resources and in the supply of facilities in different geographical areas are likely to alter the existing pattern of patient flow (Morgan et al, 1987).

Methods and Procedures

The location chosen for study consists of the catchment area of the Joint Military Medical Command (JMMC), San Antonio, Texas. A conceptual framework has been developed for quantifying demand for health care services by the beneficiaries of the JMMC catchment area. This framework defines, geographically and demographically, the beneficiary population of the JMMC. The population is then divided into groups according to age and sex and trended five years into the future in order to quantify the change in population size and mix. The model then equates the population with the health care services demand experienced by beneficiaries and identifies factors, through Analysis of Variance, relating to the population, that are significant indicators of the population's demand for health care services. These factors are then further segmented to determine how they affect the demand for specialty categories of care and sources from which services are acquired.

With the population mix and magnitude established, demand for health care services is quantified and projected five years into the future based on changes in utilization and changes in the population mix.

Population Description

Geographic Description

For the purposes of this study, the population to be studied is defined as individuals who are eligible for military medical care as reflected by the Defense Eligibility Enrollment System (DEERS). This population is limited to individuals residing within and/or assigned to the catchment areas of Wilford Hall USAF Medical Center (WHMC) and Brooke Army Medical Center (BAMC), San Antonio, Texas. The catchment area generally surrounds each of these two medical centers and radiates outward forty miles from each facility.

Demographic Description

The population under study consists of the total numbers of males and females, segmented by four age groups (0-17 years, 18-44 years, 45-64 years, and 65+ years of age). Table 1 provides a presentation of the JMMC eligible population divided into sex and age groupings for fiscal years 1986 - 1989.

Population reports for JMMC beneficiaries for fiscal years 86-88 were obtained from the Defense Medical Information System (DMIS) Support Center, 901 South Highland Street, Arlington, Virginia 22204-2419. From these reports a five year forecast of future population

constitution was produced by employing the average change in each population group and regressing the average change forward. Table 2 provides a representation of the JMMC eligible population from 1990 through 1994.

Relationship of Population to Utilization

To relate the population of the JMMC catchment area to utilization of health care services, a survey instrument was used. Appendix A contains the survey along with a letter to each survey respondent from the Commander of the Joint Military Medical Command - San Antonio and a cover page containing information about the survey to the respondents.

Ethical considerations regarding survey respondents were protected by stating, with the survey instructions, that participation in the study is voluntary and that no information submitted would be reported by the researchers which would allow respondents to be individually identified.

Prior to mailing the surveys, four test survey versions were tested and revisions were made after each test. The fifth version of the survey was considered valid and reliable by the researcher based on feedback from respondents and was used after being approved by the Randolph Air Force Base Survey Branch. See Appendix B for

the survey's official designation as an Air Force approved survey.

Subjective data were gathered through the survey instrument to determine the magnitude and types of health care services being acquired by military beneficiaries from three sources. These sources of care were (1) military medical treatment facilities (MTFs), (2) through CHAMPUS, and (3) through any other sources. The "other sources" category was used to determine what and how much care beneficiaries are receiving that is totally outside the purview of the military system or what is sometimes known as "ghost" services. Ghost services are paid for by patients (self-paid), insurance (other than CHAMPUS), or other third parties.

Utilization data for services in two of the sources of care listed above, MTF and CHAMPUS, were also available through objective sources. The inclusion of survey questions about these two categories was for two reasons. First, having questions relating to the three sources of care rather than just the ghost or other services source was thought to be a good way of keeping respondents from becoming confused and reporting MTF and CHAMPUS utilization where only ghost services data were requested. Second, having respondents report on MTF and CHAMPUS usage

provided an opportunity to compare survey reported utilization with the objective utilization data obtained from JMMC MTFs' Medical Expense and Performance Reports (MEPRS) and the Office of CHAMPUS' Health Care Summary by Primary Diagnosis Reports. The more closely the subjectively reported survey data approximates the objectively reported MEPRS and CHAMPUS data the more strength has the argument that the survey provides valid data.

The prime objective of the market survey, however, was twofold, to determine the magnitude of ghost service usage and to equate usage with a specific population mix. One of the characteristics attributed to beneficiaries who use ghost services or the "ghost population" is that they begin to use the military MTFs when access to treatment in the military system is increased (Burke et al.).

The survey sample consisted of a one percent random sample drawn from the Defense Eligibility Enrollment System (DEERS) data base. Six hundred thirty-five surveys questioning 1,907 beneficiaries were mailed to addresses reflected in DEERS. Active duty sponsors received their surveys at their duty addresses. All other categories of

sponsors received their surveys at their residential addresses. Two hundred sixty-four surveys were returned, containing responses from 672 individuals. Responses from 665 individuals were required to have a large enough survey to be statistically representative of the population. Eighty surveys were returned to sender for lack of a current address and another 19 surveys were returned too late to process.

The survey instrument has two sections, a demographic section and a utilization section. The demographic section captured information about the beneficiaries in the San Antonio region. This information served as a surrogate for the population mix. The population mix consisted of the following constituent elements: military pay grade as requested in Question 1.; coded 1 if E1 - E4; 2 if E5 - E7, 3 if E8 - E9; 4 if O1 - O3; 5 if O4 - O6; 6 if O7 or higher and 7 if other. Question 2. requested the status of the sponsor. Responses were coded: 1 if Active Duty, 2 if Active Duty Dependent, 3 if Retired, 4 if Dependent of Retired, and 5 if Other. Question 3. asked for the zip code of the sponsor's residence. Zip code was coded as the sponsor's zip code of residence. Sponsor's branch of service was coded 1 if Air Force, 2 if Army, 3 if Navy, 4 if Coast

Guard, 5 if Marines, and 6 if Other in Question 4. Family income was coded 1 if less than \$20,000 per year, 2 if more than \$20,000 but less than \$40,000 per year, 3 if more than \$40,000 but less than \$60,000 per year, 4 if more than \$60,000 but less than \$80,000 per year, and 5 if more than \$80,000 per year in Question 5. The sex and age of each individual surveyed were preloaded into the data base from the DEERS sample file and, therefore, questions about these two demographic variables did not have to be asked.

In the survey's utilization section, respondents were asked whether they or their family members used health care services (Question 6.) in the preceeding twelve months and Question 7. asked if any family member used health care services that were not provided by a military hospital/clinic or through the CHAMFUS program. Responses to these questions were coded 1 if Yes and 2 if No. They were also asked, in Question 8. for reasons why they used non-military sponsored care, if they did. These responses were coded 1 through 9 for as many responses as applied. Finally, respondents were asked to indicate what types, and how many outpatient visits and hospital admissions each of their family members accessed during the previous year. Responses were coded 1-29 for the specialty(s)

used, 1-6 for the source(s) of care, and the number of visits to each specialty and care source was coded as itself (actual number of visits or admissions used).

Survey responses and the preloaded demographic data were coded into a data base. The data contained in the data base were then converted to a ASCII file on floppy disk and processed with the Statistical Package of the Social Sciences (SPSS). Descriptive Statistics and Analysis of Variance (ANOVA) were performed on the numbers of encounters (outpatient visits and admissions) in twenty nine medical specialties broken down by factors relating to the population mix. The 29 medical specialties were combined into six groups called Medical Expense and Performance Report System (MEPRS) subaccounts to yield larger frequency concentrations. The population mix factors used as independent measures in the analyses were age group, income group, and sex. The other demographic factors gathered through the survey were not analyzed to restrict the scope of the study. However, the factors thought to most likely have effect on health care demand were the ones selected. There were four age groups: (1) 0-17 years, (2) 18-44 years, (3) 45-64 years, and (4) 65 years and older. Five income categories were established: (1) less than \$20,000 per year, (2)

\$20,000-\$39,999.99, (3) \$40,000-59,999.99, (4) \$60,000-79,999.99 and (5) \$80,000 or more. Sex was broken down as male and female.

In performing the ANOVAs, the hypothesis tested was that health care demand is a function of the population mix. The dependent variable, health care demand, was operationally defined as the numbers of outpatient visits and inpatient admissions used per year per eligible beneficiary in six aggregated medical specialty groupings. The independent variable, population mix, was operationally defined as the respondents age (in one of four categories), sex (male or female), and income (in one of five categories).

Once surveys were gathered and the utilization statistics added to CHAMPUS and MTF usage, a total utilization for the population was calculated. With population and usage data determined, incidence rates were then calculated.

Incidence rates were determined by dividing visits and admissions per specialty, by population. Incidence rate growth was then determined by using the incidence rates calculated for the population mix and projected for five fiscal years by building a regression line based on the three previous years. Statistics. These data were then

compared to incidence rates between military usage and civilian usage of health care services to show how the two differ. Using population estimates (see Table 2) and incidence data, demand was calculated and projected for five fiscal years.

The Demand Model

To determine demand for health care services in the JMMC catchment area, the following model was designed to define demand. The model is specified below:

DEMAND = FEDERAL UTILIZATION (MTF UTILIZATION + CHAMPUS
UTILIZATION) + OTHER UTILIZATION (3RD PARTY
PAYOR + SELF PAY)

Federal Utilization:

Outpatient visits to a military MTF

- categories of visits; 29 specialty areas (see Appendix C for a listing of these specialties) grouped into six MEPRS subaccounts

Inpatient admissions to a military MTF

- categories of services; 29 specialty areas

CHAMPUS outpatient visits to civilian facilities

- categories of visits; 27 specialty areas

CHAMPUS admissions to civilian facilities

- categories of services; 27 specialty areas

Other Utilization:

Outpatient visits by military beneficiaries to

civilian providers paid for in whole or in part
by parties other than MTFs or CHAMPUS

- categories of visits; 29 medical specialty areas

Inpatient admissions by military beneficiaries paid
for in whole or in part by parties other than MTFs
or CHAMPUS

- categories of services; 29 medical specialty areas

Results

Objective Utilization Data

JMMC MTF Outpatient Visits

Twenty nine medical specialties plus their associated subspecialty components were combined to form the following medical categories: Medical, Surgical, Psychiatry, Pediatrics, Obstetrics/Gynecology, and Orthopedics. These six categories correspond to MEPRS subaccounts as previously stated.

Medical Outpatient Category. Twenty three medical specialty areas were combined to form the medical category of care. Table 3 shows utilization of these specialties from fiscal year 1987-1989. Total medical outpatient visits to JMMC MTFs for the three year period were: 1,163,718 in fiscal year (FY) 1987, 1,210,520 in FY 1988, and 1,203,120 in 1989.

Surgical Outpatient Category. Thirteen medical specialty areas were combined to form the surgical category of care. Table 4 shows utilization of these specialty services for FYs 1987-1989. Total surgical outpatient visits to JMMC MTFs were: 277,163 in FY 1987, 276,666 in FY 1988 and 271,116 in FY 1989.

Psychiatry Outpatient Category. Six medical specialty areas were combined to form the psychiatry

category of care. Table 5 shows utilization of these specialty services for FYs 1987-1989. Total psychiatry outpatient visits to JMMC MTFs were: 85,704 for FY 1987, 148,702 for FY 1988, and 146,423 for FY 1989.

Pediatric outpatient category. Four medical specialty areas were combined to form the pediatric category of care. Table 6 shows utilization of these specialty services for FYs 1987-1989. Total pediatric outpatient visits to JMMC MTFs were: 117,934 for FY 1987, 127,887 for FY 1988, and 128,997 for FY 1989.

Obstetrics and Gynecology (OB/GYN) Outpatient Category. Two medical specialties combined to form the OB/GYN category of care. Table 7 shows utilization of these specialty services for FYs 1987-1989. Total OB/GYN outpatient visits to JMMC MTFs were: 116,209 in FY 1987, 114,916 in 1988, and 113,556 in FY 1989.

Orthopedic Outpatient Category. Five specialty areas were combined to form the orthopedic category of care. Table 8 shows utilization of these specialty services for FYs 1987-1989. Total orthopedic outpatient visits to JMMC MTFs were: 83,960 in FY 1987, 86,155 in FY 1988, and 82,104 in FY 1989.

JMMC_MTF_Inpatient_Admissions

Like with the outpatient utilization reported above, twenty nine medical specialties plus their associated subspecialty areas were combined to form the following medical categories for summarizing inpatient utilization in terms of admissions: Medical, Surgical, Psychiatry, Pediatrics, Obstetrics/Gynecology, and Orthopedics. These six categories also correspond to the MEPRS subaccounts. The FY 1987 utilization is reported as discharges rather than admissions. There was statistically no difference in the numbers of admissions and discharges reported.

Medical_Inpatient_Category. Fourteen specialty areas were combined to form the medical category of care. Table 9 shows utilization of these specialty services for FYs 1987-1989. Total medical admissions to JMMC MTFs were: 16,193 in FY 1987 (discharges), 15,324 in FY 1988, and 15,400 in 1989.

Surgical_Inpatient_Category. Twelve specialty areas were combined to form the surgical category of care. Table 10 shows utilization of these specialty services for FYs 1987-1989. Total surgical admissions to JMMC MTFs were: 16,261 in FY 1987 (discharges), 15,132 in FY 1988, and 15,169 in FY 1989.

Psychiatry Inpatient Category. Two specialty areas were combined to form the psychiatry category of care. Table 11 shows utilization of these specialty services for FYs 1987-1989. Total psychiatric admissions to JMMC MTFs were: 1,366 in FY 1987 (discharges), 1,422 in FY 1988, and 1,247 in FY 1989.

Pediatric Inpatient Category. Four specialty areas were combined to form the pediatric category of care. Table 12 shows utilization of these specialty services for FYs 1987-1989. Total pediatric admissions to JMMC MTFs were: 5,656 in FY 1987 (discharges), 5,077 in FY 1988, and 4,941 in FY 1989.

OB/GYN Inpatient Category. Two medical specialties were combined to form the OB/GYN category of care. Table 13 shows utilization of these specialty services for FYs 1987-1989. Total OB/GYN admissions to JMMC MTFs were: 6,429 in FY 1987 (discharges), 5,741 in FY 1988, and 5,729 in 1989.

Orthopedic Inpatient Category. Two medical specialties were combined to form the orthopedic category of care. Table 14 shows utilization of these specialty services for FYs 1987-1989. Total orthopedic admissions to JMMC MTFs were: 3,799 in FY 1987 (discharges), 3,494 in FY 1988, and 3,396 in FY 1989.

CHAMPUS Outpatient Visits

CHAMPUS utilization data were obtained from the CHAMPUS Health Care Summary By Primary Diagnosis Report. Table 15 depicts both outpatient and inpatient utilization of services in twenty seven medical specialties. These specialties were then combined into groupings of the six MEPRS subaccount categories for summarization using essentially the same procedure as used for the JMMC MTFs utilization summarized above.

Medical Outpatient Category. Outpatient utilization in fifteen specialty areas was combined to form the CHAMPUS medical category of care. Table 16 depicts utilization of these specialty services for FYs 1987-1989. Total CHAMPUS medical outpatient visits were: 14,446 in FY 1987, 15,809 in FY 1988, and 25,904 in FY 1989.

Surgical Outpatient Category. Outpatient utilization in six specialty areas was combined to form the CHAMPUS surgical category of care. Table 17 depicts utilization of these specialty services for FYs 1987-1989. Total CHAMPUS surgical outpatient visits were: 6,065 in FY 1987, 7,897 in FY 1988, and 14,099 in FY 1989.

Psychiatry Outpatient Category. Outpatient utilization in two specialty areas was combined to form

the CHAMPUS psychiatry category of care. Table 18 depicts utilization of these specialty services for FYs 1987-1989. Total CHAMPUS psychiatry outpatient visits were: 59,290 in FY 1987, 73,608 in FY 1988, and 84,173 in FY 1989.

Pediatric Outpatient Category. One category formed the CHAMPUS pediatric category of care. Table 19 depicts utilization of this specialty service for FYs 1987-1989. Total CHAMPUS pediatric outpatient visits were: 640 in FY 1987, 803 in FY 1988, and 1,134 in FY 1989.

OB/GYN Outpatient Category. Outpatient utilization in two specialty areas was combined to form the CHAMPUS OB/GYN category of care. Table 20 depicts utilization of these specialty services for FYs 1987-1989. Total CHAMPUS OB/GYN outpatient visits were: 650 in FY 1987, 1,230 in FY 1988, and 2,519 in FY 1989.

Orthopedic Outpatient Category. One category formed the CHAMPUS orthopedic category of care. Table 21 depicts utilization of this specialty service for FYs 1987-1989. Total CHAMPUS orthopedic outpatient visits were: 2,375 in FY 1987, 5,129 in FY 1988, and 7,474 in FY 1989.

CHAMPUS Inpatient Admissions

Medical Inpatient Category. Fifteen medical specialties were combined to form the CHAMPUS medical category of care. Table 22 shows utilization of these

specialty services for FYs 1987-1989. Total CHAMPUS medical admissions were: 282 in FY 1987, 252 in FY 1988, and 292 in FY 1989.

Surgical Inpatient Category. Six medical specialties were combined to form the CHAMPUS surgical category of care. Table 23 shows utilization of these specialty services for FYs 1987-1989. Total CHAMPUS surgical admissions were: 150 in FY 1987, 143 in FY 1988, and 159 in FY 1989.

OB/GYN Inpatient Category. Two medical specialties were combined to form the CHAMPUS OB/GYN category of care. Table 24 shows utilization of these specialty services for FYs 1987-1989. Total CHAMPUS OB/GYN admissions were: 77 in FY 1987, 52 in FY 1988, and 58 in FY 1989.

Psychiatry Inpatient Category. Two medical specialty areas were combined to form the CHAMPUS psychiatry category of care. Table 25 shows utilization of these specialty services for FYs 1987-1989. Total CHAMPUS psychiatry admissions were: 531 in FY 1987, 722 in FY 1988, and 907 in FY 1989.

Pediatric Inpatient Category. One medical specialty area formed the CHAMPUS pediatric category of care. Table

26 shows utilization of this specialty service for FYs 1987-1989. Total CHAMPUS pediatric admissions were: 3 in FY 1987, 4 in FY 1988, and 7 in FY 1989.

Orthopedic Inpatient Category. One medical specialty area formed the CHAMPUS orthopedic category of care.

Table 27 shows utilization of this specialty service for FYs 1987-1989. Total CHAMPUS orthopedic admissions were: 63 in FY 1987, 40 in FY 1988, and 37 in FY 1989.

Total Objective Utilization

Outpatient Demand. In FY 1987, total objective JMMC outpatient demand consisted of 1,844,688 JMMC MTFs visits + 82,826 CHAMPUS visits, for a total objective outpatient demand = 1,927,514 outpatient visits. See Table 28. In FY 1988, total objective outpatient demand consisted of 1,923,245 JMMC MTFs visits + 104,474 CHAMPUS visits, for a total objective outpatient demand = 2,027,719 outpatient visits. See Table 29. In FY 1989, total objective JMMC outpatient demand consisted of 1,945,296 JMMC MTFs visits + 135,303 CHAMPUS visits, for a total objective outpatient demand = 2,080,599 outpatient visits. See Table 30.

Inpatient Demand. In FY 1987, total objective JMMC inpatient demand was 49,704 JMMC MTFs admissions (discharges was used in FY 1987) + 1,107 CHAMPUS admissions, for a total objective inpatient demand =

50,810 total admissions. See Table 31. In FY 1988, total objective JMMC inpatient demand was 46,193 JMMC MTFs admissions + 1,213 CHAMPUS admissions, for a total objective inpatient demand = 47,406 total admissions. See Table 32. In FY 1989, total objective JMMC inpatient demand was 45,882 JMMC MTFs admissions + 1,460 CHAMPUS admissions, for a total inpatient demand = 47,342 total admissions. See Table 33.

Subjective Utilization Data

Utilization data reported in this section was obtained through the use of the market survey instrument discussed in the Methods and Procedures section of this report. In this section utilization of health care services in twenty nine specialty areas, as reported by survey respondents, was summarized into the six MEPRS subaccounts; Medical, Surgical, Psychiatry, Pediatric, OB/GYN, and Orthopedics. Utilization data was also reported by source of care (JMMC MTFs, CHAMPUS, and Other Source) and is broken out as such below.

Subjective Outpatient Utilization For the Sample

Table 34 depicts outpatient utilization from JMMC MTFs, CHAMPUS, and Other Sources as reported by survey respondents. Responses by survey respondents about their use of services in twenty nine specialty areas has been

grouped into the six MEPRS subaccounts for reporting purposes. The 672 respondents reported 4,371 visits in the medical category, 787 visits in the surgical category, 422 visits in the OB/GYN category, 225 visits in the psychiatry category, 268 visits in the pediatric category, 244 visits in the orthopedic category, for a total outpatient utilization of 6,317 visits.

Subjective Outpatient Utilization For the Population

Table 35 shows incidence rates for the six categories of care by source of service. These incidence rates are reported as visits per member year. Survey respondents reported the following incidence rates: 6.5089 for the medical category, 1.1712 for the surgical category, 0.628 for the OB/GYN category, 0.3349 for the psychiatry category, 0.3988 for the pediatric category, 0.3631 for the orthopedic category, and a grand total incidence rate of 9.4049 outpatient visits per member year.

Using these incidence rates, total outpatient visits for each of the six specialty areas were calculated by multiplying these incidence rates by the total 1989 JMMC eligible population of 174,665. Using this methodology the following total visits, were determined: 1,136,877 medical visits, 204,568 surgical visits, 109,690 OB/GYN visits, 58,495 psychiatry visits, 69,656 pediatric

visits, 63,421 orthopedic visits, and a total of 1,642,706 outpatient visits for JMMC beneficiaries. This information is displayed in Table 36.

Subjective Inpatient Utilization For the Sample

Table 37 shows inpatient utilization from JMMC MTFs, CHAMPUS, and Other Sources of care as reported by survey respondents. Responses by respondents, as above, are grouped into six MEPRS subaccounts. Six hundred seventy two survey respondents reported 110 admissions in the medical category, 45 admissions in the surgical category, 14 admissions in the OB/GYN category, 3 admissions in the psychiatry category, 4 admissions in the pediatric category, 13 admissions in the orthopedic category, for a total inpatient utilization of 189 admissions.

Subjective Inpatient Utilization For the Population

Table 38 shows incidence rates for the six categories of care by source of service. These incidence rates are reported as admissions per member year. Survey respondents reported the following incidence rates: 0.1637 for the medical category, 0.0669 for the surgical category, 0.0208 for the OB/GYN category, 0.0045 for the psychiatry category, 0.0060 for the pediatric category, 0.0194 for the orthopedic category, and a grand total incidence rate of 0.2813 admissions per member year.

Using these incidence rates, total admissions for each of the six specialty areas were calculated by multiplying these incidence rates by the total 1989 JMMC eligible population of 174,665. Using this methodology the following total admissions, were determined: 28,593 medical admissions, 11,686 surgical admissions, 3,633 OB/GYN admissions, 786 psychiatry admissions, 1,047 pediatric admissions, 3,389 orthopedic admissions, and a total of 49,134 inpatient admissions for JMMC beneficiaries. This information is displayed in Table 39.

Utilization Comparisons

To determine how closely the subjectively reported survey data approximates the objectively reported utilization data (MEPRS and CHAMPUS), like categories of utilization are compared for MTFs and CHAMPUS sources of care.

Outpatient Utilization Comparisons

Table 40 shows a comparison of survey gathered outpatient utilization as to compared with the JMMC MTFs MEPRS data and CHAMPUS data reported by the Office of CHAMPUS (OCHAMPUS). Total medical category visits were 1.255 times more in the MEPRS and OCHAMPUS (objective) group than in the surveyed (subjective) group. Total surgical category visits were 1.623 times more in the

objective group than in the subjective group. Total psychiatry category visits were 4.087 times more in the objective group than in the subjective group. Total pediatric category visits were 1.868 times more in the objective group than in the subjective group. Total OB/GYN visits were 1.145 times more in the objective group than in the subjective group. Total orthopedics visits were 1.758 times more in the objective group than in the subjective group. Total JMMC MTFs outpatient visits in the objective group were 1.454 times more than in the subjective group. Total CHAMPUS visits were 1.419 more in the objective group than in the subjective group. Total outpatient visits in the objective group were 1.452 times more than total outpatient visits reported in the subjective group. It appears that, on the whole, survey respondents under-estimate their utilization of outpatient services by a factor of 1.452. However, the MEPRS and CHAMPUS objective data are reported for a fiscal year that runs from October through September and the survey data is for the fiscal year May - April, which may account for some of the variation.

Inpatient Utilization Comparisons

Table 41 shows a comparison of survey gathered inpatient utilization as to compared with the JMMC MTFs

MEPRS data and CHAMPUS data reported by OCHAMPUS. Total medical category admissions in the objective group were 0.642 times that of the subjective group. Total surgical category admissions were 1.475 times more in the objective group than in the subjective group. Total psychiatry category admissions were 2.740 times more in the objective group than in the subjective group. Total pediatric category admissions were 4.726 times more in the objective group than in the subjective group. Total OB/GYN admissions were 1.593 times more in the objective group than in the subjective group. Total orthopedics admissions were 1.319 times more in the objective group than in the subjective group. Total JMMC MTFs inpatient admissions in the objective group were 1.139 times more than in the subjective group. Total CHAMPUS inpatient admissions in the objective group were 0.561 that of the subjective group. Total inpatient admissions in the objective group were 1.104 times more than total inpatient admissions reported in the subjective group. It appears that on the whole, survey respondents underestimate their utilization of inpatient services by a factor of 1.104. Again, the difference in the reporting year may account for part of the variation.

Total Demand

In this study, total demand consists of the objective utilization data gathered and displayed in Table 30 (outpatient visits) and Table 33 (inpatient admissions) plus the subjectively gathered utilization of services from sources other than the military MTFs and CHAMPUS (ghost services).

Total Outpatient Demand for 1989

Table 42 shows total outpatient demand to be 2,290,093, with 1,945,296 visits to JMMC MTFs, 135,303 visits to CHAMPUS sources and 209,494 visits to other sources of care (ghost services). If, however, the correction factors obtained and displayed in Table 40 are considered, accounting for the degree to which survey respondents may have misestimated their usage of ghost services, then total demand for outpatient services rises 4.15 percent to 2,385,225 visits. The difference in total demand is made up of the difference in the ghost services category. This category of service increased to 304,626 visits with the application of the correction factors. Total outpatient demand under application of the correction factors is displayed in Table 43.

Total Inpatient Demand for 1989

Table 44 shows total inpatient demand to be 53,578 admissions. This total is comprised of 45,882 admissions to JMMC MTFs, 1,460 CHAMPUS admissions and 6,236 admissions to other sources (ghost services). If the correction factors displayed in Table 41 are applied, total demand for inpatient services falls by 1.73 percent to 52,955 admissions (Table 45). With application of the correction factors, the Ghost Usage category is 5,613 admissions as opposed to 6,236 admissions in the unadjusted display.

Incidence Rates

JMMC MTFs Incidence Rates

Outpatient Incidence Rates. Tables 46-51 display outpatient incidence rates for the specialty areas composing the MEPRS subaccounts for fiscal years 1987-1989. Table 52 summarizes Tables 46-51, totaling JMMC MTFs outpatient utilization for the three year periods by MEPRS subaccount to yield yearly total incidence rates for JMMC MTFs. The total incidence rate for each of the three years showed increases and the rates were as follows: 13.609 visits in 1987, 13.954

visits in 1988, and 14.123 visits in 1989. This was an increase of 3.78 percent for the three year period or 1.26 percent per year.

Inpatient Incidence Rates. Table 53 summarizes the JMMC MTFs inpatient incidence rates for fiscal years 1987-1989 in the MEPRS subaccount categories. The total incidence rates per member year for the three year periods were: .434 admissions per member year for 1987, .386 admissions per member year for 1988, and .352 admissions per member year for 1989. This was a decrease of 18.89 percent for the three year period or 6.30 percent per year.

CHAMPUS Incidence Rates

Outpatient Incidence Rates. Tables 54-59 display outpatient incidence rates for the specialty areas making up the CHAMPUS equivalents (roughly) for the MEPRS subaccounts for 1987-1989. Table 60 summarizes Tables 54-59, by totaling CHAMPUS outpatient utilization for the three year periods by broad specialty to yield yearly total incidence rates for CHAMPUS outpatient use. The total CHAMPUS outpatient incidence rates have risen sharply since 1987 as follows: .495 visits per member year in 1987, .597 visits per member year in 1988, and .810 visits per member year in 1989. This was an increase

of 63.64 percent for the three period or 21.21 percent per year.

Inpatient Incidence Rates. Tables 61-62 show inpatient incidence rates for the six CHAMPUS specialty areas. Table 63 summarizes these tables for 1987-1989 by summing CHAMPUS inpatient utilization to give yearly total incidence rates for CHAMPUS inpatient use. The total incidence rate increased in each of three years, with .00638 admissions per member year in 1987, .00667 admissions per member year in 1988, and .00834 admissions per member year in 1989. This was a three years' increase of 30.72 percent or 10.24 percent per year. Virtually all of the increase in the total incidence rate in each of the years is attributable to the increases in the psychiatry category.

Ghost Services Incidence Rates

Incidence rates for the outpatient ghost services are provided in Table 35. In that table the total incidence rate attributed to ghost services is 1.994 visits per member year. Incidence rates for inpatient ghost services are provided in Table 38. In that table the total incidence rate attributed to ghost services is .0357 admissions per member year.

Total Incidence Rates

Total incidence rates for 1988 and 1987 could not be calculated because of the lack of the subjective data (ghost service data) portion of demand. Total outpatient demand incidence rates for 1989 are shown in Table 64. The total incidence rate for outpatient services in 1989 was 16.1324 visits per member year. Total inpatient demand incidence rates for 1989 are shown in Table 65. The total demand incidence rate for inpatient services in 1989 was .39604 admissions per member year.

Projected Demand

Outpatient Incidence Rates. Table 66 depicts the growth in outpatient incidence rates through 1994 if the current growth rate continues. The total JMMC MTFs' incidence rate will climb from 14.123 visits per member year in 1989 to 17.473 visits per member year in 1994, an increase of 23.72 percent for the six years period or 3.95 percent per year. The total CHAMPUS outpatient incidence rate will grow from 1.112 visits per member year in 1990 to 6.291 visits per member year in 1994, an increase of 465.64 percent for the five years period or 93.15 percent per year. The ghost usage outpatient incidence rate which was calculated at 1.199 visits per member year was straightlined due to the lack of other

reporting years. The total outpatient incidence rate will increase from 16.807 visits per member year in 1990 to 24.9 visits per member year, an increase of 48.5 percent for the six years period or 9.7 percent per year.

Total Outpatient Demand

Table 67 displays the growth in total demand projected through 1994 at the current growth rate. The total demand was calculated by multiplying the incidence rates obtained in Table 66 by the total projected population for each of the years 1990-1994 (Table 2). Total outpatient visits to JMMC MTFs are expected to reach 2,992,513 in 1994. Total CHAMPUS outpatient visits are expected to be 1,077,428 in 1994 and ghost usage outpatient visits will be 205,346 in that year. Total outpatient visits will be 4,275,287.

Inpatient Incidence Rates

Table 68 shows the expected change in inpatient incidence rates through 1994 at the current rate of change. Between 1990 and 1994, the rate of admissions to JMMC MTFs is projected to decrease from .3693 admissions per member year in 1990 to .2906 admissions per member year in 1994, a five years decline of 21.3 percent or 4.3 percent per year. The CHAMPUS admission rate, at the same time, is projected to rise from .0108 admissions per

member year to .0273 admissions per member year, a five years increase of 60.4 percent or 12.1 percent per year. The ghost service admissions rate is projected to remain constant based on only use data from 1989 and projected, considering changes in the population size. The aggregate admission incidence rate will fall from .4158 admissions per member year in 1990 to .3536 admissions per member year by 1994, a five years decrease of 15 percent or 3 percent per year.

Total Inpatient Demand

In Table 69 inpatient demand is projected through 1994. Admissions to JMMC MTFs are expected to fall from 63,976 in 1990 to 49,769 in 1994. CHAMPUS admissions are expected to rise sharply from 1,872 in 1990 to 4,675 in 1994. Ghost service admissions are projected to fall slightly from 6,185 in 1990 to 6,114 in 1994. Overall, admissions are expected to decline from 72,033 in 1990 to 60,558 in 1994, or approximately 15.9 percent.

Analyses of Variance

Analysis of Variance (ANOVA) tests were performed to determine whether the numbers of visits or admissions to six major medical specialty areas (Medical, Surgical, Psychiatry, Pediatric, OB/GYN, and Orthopedic) were influenced by age, sex, and income for care provided by

three sources (JMMC MTFs, CHAMPUS, and Ghost Sources). The alpha level .05 was used for evaluating statistical significance. The following information is reported resultant from these statistical tests.

CHAMPUS Outpatient Visits.

Medical Category (Table 70). There were 125 outpatient visits reported to the CHAMPUS medical category of care. The mean number of visits to this category of care was .1860 per member year. There was not a statistically significant difference in visit rates among age categories: $F(3,668) = 1.5737$, $p = .1945$. The age categories referred to here and further in this paper are; category 1 - ages 0-17 years, category 2 - ages 18-44 years, category 3 - ages 45-64 years, and category 4 - ages 65 years and older.

CHAMPUS visits are not authorized for beneficiaries age 65 years and older. The fact that nine CHAMPUS visits were reported for beneficiaries in this age category may be accounted for by a person in this category attending psychiatry visits with a CHAMPUS eligible family member and reporting the visits for him/herself as well as for the eligible beneficiary. The visits could also have been reported and/or recorded in error.

income categories referred to here and further in this paper are; category 1 - less than \$20,000, category 2 - \$20,000 but less than \$40,000, category 3 - \$40,000 but less than \$60,000, category 4 - \$60,000 but less than \$80,000, and category 5 - \$80,000 or more. Nor was there a statistical difference in visit rates between sexes: $F(1,670)=2.3994$, $p=.1219$.

Surgical_Category_(Table_71). There were 37 visits reported for the CHAMPUS surgical outpatient category. The average visits per member year were .0551. There was not a significant difference among age groups: $F(3,668)=1.3141$, $p=.2687$. There was not a significant difference in visit rates among income groups: $F(4,665)=.9362$, $p=.4423$, and there was no significant difference between use rates between sexes: $F(1,670)=2.1865$, $p=.1397$.

OB/GYN_Category_(Table_72). There were only 19 visits reported to the CHAMPUS category of care. There was no significant difference in visit rates among age groups: $F(3,668)=.9978$, $p=.3933$. There was not significant difference in visit rates broken down by income groups: $F(4,665)=.5678$, $p=.6861$. However,

statistically significant differences in mean visits were achieved between sexes as expected: $F(1,670)=4.5816$, $p=.037$.

Psychiatry Category (Table 73). There were 147 outpatient visits recorded under the psychiatry category of care. Statistical significance was not achieved among age groups: $F(3,668)=2.3936$, $p=.0673$. However, all but three of the reported visits were reported in the 0-17 and 18-44 years age groups with no visits reported in the 65 years and older group. Practical significance may have been achieved in this comparison. There was no significant difference in visit rates among income groups: $F(4,665)=.5064$, $p=.7310$ or between sexes: $F(1,670)=1.2052$, $p=.2727$.

Pediatric Category (Table 74). There were only 15 CHAMPUS pediatric visits reported. All visits were in the 0-17 years age group. Therefore, statistical significance was achieved for visit rates among age groups: $F(3,668)=7.1135$, $p=.0001$. Statistical significant differences were not achieved for visit rates among income groups: $F(4,665)=1.4076$, $p=.2298$ or between sexes: $F(1,670)=1.0002$, $p=.3176$.

Orthopedic Category (Table 75). There were 24 CHAMPUS orthopedic visits reported. There were not

significant differences in visit rates among age groups:
 $F(3,668) = .4800$, $p = .6963$; among income groups:
 $F(3,668) = .4141$, $p = .7985$; or between sexes:
 $F(1,670) = .2051$, $p = .6508$.

JMMC MTFs Outpatient Visits.

Medical Category (Table 76). There were 3,642 medical visits reported by survey respondents to the outpatient clinics of JMMC MTFs. The average number of visits per member year was 5.4196. There was a significant difference in the average numbers of visits between the four age groups: $F(3,68) = 14.117$, $p = .0000$. There was not a significant difference in the numbers of visits by income group: $F(4,665) = 2.0033$, $p = .0921$. There was no significant difference in use rates between sexes: $F(1,670) = .7060$, $p = .4011$.

Surgical Category (Table 77). There were 639 visits reported in the JMMC MTF outpatient surgical category. There was significant difference in use rates among age groups: $F(3,668) = 10.7172$, $p = .0000$. The average number of visits per member year was .9509. However, the averages ranged from a low of .4656 visits per member year in the 0-17 years age group to a high of 1.627 visits per member year in the 65 years and older age group. There was not a significant difference in visits among income

groups: $F(4,665)=1.5155$, $p=.1959$. Nor was there a significant difference in mean visits between sexes: $F(1,670)=.4806$, $p=.4884$.

OB/GYN_Category_(Table_78). Survey respondents reported 371 visits in the OB/GYN category of outpatient care. There was a highly significant difference in visit rates among age groups: $F(3,668)=8.4017$, $p=.0000$. The average number of visits per member year was .5521, with the 18-44 years age group averaging almost twice the group average at 1.0561 visits per member year. There was no significant difference in visits among income groups: $F(4,665)=1.0446$, $p=.3833$. There was a highly significant difference in the numbers of visits between sexes: $F(1,670)=41.8529$, $p=.0000$.

Psychiatry_Category_(Table_79). There were 70 visits reported for the psychiatry outpatient category of care, with a group average of .1042 visits per member year. There was not a statistically significant difference in visits among age groups: $F(3,668)=1.9856$, $p=.1148$. However, all visits reported were in the first two age categories, with 30 visits reported for the 0-17 years age group and 40 visits reported for the 18-44 years age group. There was not significant difference in visit rates among income groups: $F(4,665)=1.3738$, $p=.2414$.

However, 42 of the visits were experienced by the under \$20,000 income group and 27 visits were reported by the \$20,000 - \$39,999.99 age group. There was not a significant difference in the numbers of visits reported between sexes: $F(1,670)=.1074$, $p=.7433$.

Pediatric Category (Table 80). There were 253 visits reported to the JMMC MTF pediatric outpatient category of care. There was significant difference in visit rates among age groups: $F(3,668)=1.9856$, $p=.0000$. All visits were reported in the first two age categories. There was not a significant difference in the numbers of visits reported among income groups: $F(4,665)=1.1476$, $p=.3330$. There was not significant difference in visits between sexes: $F(1,670)=.2108$, $p=.6463$.

Orthopedic Category (Table 81). There were 172 visits reported to the orthopedic category of care, with a mean of .2560 visits per member year. There was not a significant difference in visit rates among age groups: $F(3,668)=.0916$. However, viewing the mean visits per age group reveals that there may be a practically significant difference among age groups, as they range from .1069 visits per member year in the 0-17 years age group to .4524 visits per member year in the 65 years and older age group. There was no significant difference in the visit

rates among income groups: $F(4,665)=.7322$, $p=.5702$.

There was no significant difference in the visits between sexes, both receiving 86 visits: $F(1,670)=.0152$, $p=.9019$.

Ghost Sources Outpatient Visits

Medical Category (Table 82). There were 607 total medical outpatient visits reported for ghost services for the 672 beneficiaries reported, with an average of .9033 visits per member year. For members who received services in this category, there was not a significant difference in the visit rates reported for the four age groups: $F(3,668)=2.4427$, $p=.0631$. There was a significant difference, however, among the income groups in the amount of services used: $F(4,665)=5.0196$, $p=.0005$. The highest income group used ghost medical services at a rate approximately 238 percent more than the lowest income group. Interestingly enough though, the second and third lowest income groups both used less ghost services than the lowest income group. A possible explanation is that the lowest income group may also tend to be younger and single and thus may have more disposable income and use less complex care. There was also a significant difference in the amount of ghost medical services received between males and females $F(1,670)=6.5533$, $p=.0107$. Females averaged 1.2918 medical outpatient

visits per year and males averaged only 41 percent as many, .5306 visits per male per year.

Surgical Category (Table 83). There was a total of 111 ghost outpatient visits to the surgical category, with a highly significant difference in visit rates among age groups: $F(3,668)=9.5140$, $p=.0000$. The lowest age group received an average of .4127 visits per year while the youngest group received only .0763 visits per member year. The second youngest category received the fewest visits, as a group, with .0327 visits per member year. There was a highly significant difference in mean visits among income groups: $F(4,665)=6.1292$, $p=.0001$. Each successive income category (from youngest to oldest) received more ghost surgical visits than the income category preceeding it. There was no significant difference in surgical visits received between sexes: $F(1,670)=.4059$, $p=.5243$.

OB/GYN Category (Table 84). There were 32 ghost outpatient visits reported to the OB/GYN category. There was no significant difference in visit rates by age group in this category: $F(3,668)=.9229$, $p=.4293$. There was, however, significant difference in mean visits among income groups: $F(4,665)=5.8677$, $p=.0001$. There was also a significant difference in mean visits by sex: $F(1,670)=11.9747$, $p=.0006$. A point of interest was that

no visits were reported for members in the highest income group.

Psychiatry Category (Table 85). There were only 8 ghost outpatient visits reported for the psychiatry category of service. There were no significant differences in mean visits among age groups: $F(4,665)=1.5002$, $p=.2004$.

Pediatric Category (Table 86). There were no ghost outpatient visits reported for the pediatric category of care by survey respondents.

Orthopedic Category (Table 87). There were 48 outpatient visits to the orthopedics category of service. There was a significant difference in mean visits by age group: $F(3,668)=5.9987$, $p=.0005$. The youngest age group reported no visits and the oldest age group reported an average of .2381 visits per member year. Difference in utilization by income group was also significant: $F(4,665)=2.6612$, $p=.0318$. Progressively higher income groups used progressively more services. Sex differences were not associated with differences in visit rates: $F(1,670)=2.6951$, $p=.1011$.

CHAMPUS Inpatient Admissions.

Medical Category (Table 88). There were only 6 CHAMPUS admissions reported for the medical category.

There was no significant difference in the admission rates by age group: $F(3,668)=1.1736$, $p=.3189$. There was a significant difference in admission rates among income groups, with the second and third highest income groups receiving 5 of the 6 admissions and the lowest income group receiving the other admission: $F(4,665)=3.7766$, $p=.0048$. There was no difference in admission rates between sexes: $F(1,670)=.2937$, $p=.5881$.

Surgical Category (Table 89). There were no surgical admissions reported by survey respondents under the CHAMPUS source of care.

OB/GYN Category (Table 90). There were no OB/GYN admissions reported by survey respondents under the CHAMPUS source of care.

Psychiatry Category (Table 91). There were only 4 psychiatry admissions reported and no statistical difference was found in admission rates among age groups: $F(3,668)=1.6612$, $p=.1741$. This analysis also failed to find statistically significant differences in admission rates among income groups: $F(4,665)=.6748$, $p=.5957$ or between sexes: $F(1,670)=.2957$, $p=.5881$.

Pediatric Category (Table 92). Only one pediatric admission was reported under the CHAMPUS source of care and statistical differences were not achieved for

differences in admission rates for age groups, income groups or between sexes.

Orthopedic Category (Table 93). No admissions were reported for the CHAMPUS orthopedic source of care.

JMMC MTFs Inpatient Admissions.

Medical Category (Table 94). There were 88 admissions reported for the medical category, for an admission rate of .1310 per member year. There was statistically significant difference in admission rates among age groups: $F(3,668)=3.7844$, $p=.0104$. Admission rates ranged from a low of .0607 admissions per member year in the 18-44 years group to a high of .3095 admissions per member year in the 65 year and older group. There was also a significant difference in visit rates among income groups: $F(4,665)=2.9916$, $p=.0183$. The lowest income group experienced an admission rate almost ten times higher than the highest income group. There was no significant difference in admission rates between sexes: $F(1,670)=2.7472$, $p=.079$.

Surgical Category (Table 95). A total of 47 surgical admissions were reported by the survey group, for an average admission rate of .0595 admissions per member year. There was a statistically significant difference in admission rates among age groups: $F(3,668)=6.4447$,

$p=.0003$. The oldest age group experienced an admission rate of more than ten times that of the youngest age group. There was no significant difference in the admission rates among income groups: $F(4,665)=1.6064$, $p=.1709$. Nor was there significant difference in admission rates between sexes: $F(1,670)=.4047$, $p=.5249$.

OB/GYN Category (Table 96). A total of 14 OB/GYN admissions were reported to the JMMC MTFs source of care. Average admissions per member per year were .0208. There were significant differences reported for the rates of admission by age group: $F(3,668)=4.4267$, $p=.0043$. In the sample reported, the 18-44 years age group received 11 of the admissions and the 65 years and older group received the other three admissions. There was no significant difference in admission rates among income groups: $F(4,665)=.8748$, $p=.4786$. However, the two highest income groups did not report any OB/GYN admissions to JMMC MTFs. There was a significant difference in the rates of admission among sexes, as expected: $F(1,670)=8.6196$, $p=.0034$.

Psychiatry Category (Table 97). There were no psychiatry admissions to JMMC MTFs reported by the survey respondents.

Pediatric_Category_(Table_98). There were only 3 pediatric category admissions reported by the survey respondents. Age was a significant indicator of service: $F(3,668)=4.2014$, $p=.0059$. All admissions reported in the sample were in the 0-17 years age group. Income was not a significant indicator of service use: $F(4,665)=.3242$, $p=.8618$. Neither was sex a statistically significant indicator of admission rate, although all three admissions were male: $F(1,670)=2.8943$, $p=.0894$.

Orthopedic_Category_(Table_99). There were ten orthopedic visits reported to this care category. Age was not a significant indicator of admission: $F(3,668)=.7141$, $p=.5438$. Neither were income: $F(3,665)=1.2489$, $p=.2889$ or sex: $F(1,670)=.3514$, $p=.5535$ statistically significant indicators of admission to the JMMC MTFs orthopedic service.

Ghost_Services_Inpatient_Admissions

There were only 16 medical, 5 surgical, and 3 orthopedic hospital admissions reported for this category of care. None of the ANOVAs calculated found any significant differences in the utilization of services among or between any of the comparison groups, possibly

because of the small sample sizes. For this reason the data obtained through these analyses are omitted here.

Discussion

The intent of this study was to develop a conceptual framework for assessing demand for health care services in the JMMC catchment area by military beneficiaries. In this regard, a four pronged approach was taken. First demand for services was quantified. Then demand was related to the specific population using the services. Demand was then projected five years forward, and fourth, demographic factors relating to demand for health care services were tested, statistically, to determine which factors were associated with the use of services.

Quantifying and Relating Demand to Population Mix

The automated reporting systems which are currently operable within the military health care system provide access to utilization data for quantifying demand for MTF and CHAMPUS care, although there is no objective method for assessing demand for ghost services. The DEERS system contains a comprehensive data base for defining the population mix for particular geographic areas. However, the lack of integration between these utilization and population data bases makes the association of a population with a level of health care demand, on anything

other than an aggregate basis, prohibitive. For this reason the survey instrument served a function in providing a method of associating the population, by stratified demographic categories, with demand for services in the specialty areas. However, as was observed through analyses of the data reported by survey respondents, it appeared that the subjectively reported utilization data was approximately 45 percent lower than objectively reported utilization for outpatient services and 10 percent higher than objectively reported utilization for inpatient services.

Two recommendations are made for making the quantification of demand more amenable to use in the resource planning arena. The utilization data bases (MEPRS and CHAMPUS) should be integrated with the DEERS data base. This action would facilitate the objective association of a population mix with a level of demand. Second, MEPRS and CHAMPUS data bases should be standardized so they define like visits in like manner. For instance, a pediatric visit in MEPRS should also be a pediatric visit in CHAMPUS. This is not necessarily the case at present. The undertaking of the above stated recommendations will give the military health care system a planning tool superior to anything most civilian

facilities have or use and enhance the planning capabilities of the military's health service planning system.

Projecting Demand

Through the projection of demand into the future, it becomes apparent where the challenges and opportunities of the future lie. The areas identified as showing increases are prime targets for conducting cost-benefit analyses of alternative ways to meet demand. Determining future demand can also have implications in other areas, such as for determining the numbers and mix of physicians or other medical specialists to train to meet future requirements or planning for the medical facilities that will be needed in the out years. Conversely, determining areas where demand is decreasing may reveal areas from which manpower and facilities may be drawn.

It is important when projecting demand that the projection technique be as sensitive as possible because important decisions will depend on the accuracy of the results derived. For this reason it is recommended that such projections be based on a summation of projections from all of the specialty areas and that the projections themselves incorporate the use of 1) incidence rates for several population groupings (groups composed of age

groups, and groups by sex as a minimum) and 2) consider the composition of the population itself (numbers of individuals in the age and sex groupings).

Based on this technique it was projected that total JMMC MTFs outpatient demand will increase by 19.16 percent and the CHAMPUS outpatient demand will increase by 459.93 percent between 1990 and 1994. However, it is important to determine from where these increases are coming. In the case of JMMC MTFs visits, virtually all of the increase is composed of increases in psychiatry visits. Demand in the surgical, pediatric, OB/GYN and orthopedic specialties is actually projected to decrease. All of the CHAMPUS outpatient specialties are projected to experience increases in demand ranging from 108 percent in psychiatry to 1,060 percent in orthopedics.

Total JMMC MTFs inpatient demand is slated to decrease by 22.21 percent by 1994 and CHAMPUS inpatient demand is expected to increase by 149.73 percent. All six major specialties are projected to decrease in the JMMC MTFs category. In the CHAMPUS category most of the increase is accounted for in the psychiatry specialty.

Analysis of Variance (ANOVA)

Analysis of Variance tests were performed to determine which demographic factors were indicators of

health care demand. The results of these tests indicated that different indicators were significant depending on the particular specialty, the source of care and whether the care was inpatient or outpatient.

In general, though, there were some trends identified. Age was always a significant indicator for the pediatric specialty and sex was always a significant indicator in the OB/GYN specialty, as would be expected. Under the CHAMPUS outpatient category; age, sex, or income were not significant indicators of health care demand. Under the psychiatry category of service, age reached a significance level of .0673 and may be considered to have practical significance when coupled with other information we know about use of that specialty.

Under the JMMC MTFs outpatient categories of care, age was a significant indicator of service use in four of six specialty categories. Only psychiatry with a significance level of .1148 and orthopedics with a significance level of .0915 did not exceed the alpha .05 level.

In the Ghost Services outpatient category, age was a significant indicator of service use in every specialty.

Age was a significant indicator for the surgery and orthopedic specialties and sex was significant for the medical specialty.

Under inpatient care, CHAMPUS inpatient care in the medical specialty was significantly associated with income. In the JMMC MTFs source of care, admissions to all of the specialties except orthopedics were significantly associated with age, admission to the medical specialty was associated with income. Ghost Services admissions were not analyzed because of the small sample size.

In general terms, it could be proposed that the use of CHAMPUS inpatient care is associated with the income level of the family. Use of JMMC MTFs is associated with the age of the population and the use of outpatient Ghost Services is associated with the families income and age. Therefore, age, income, and sex are all significant indicators of the use of health care services in the JMMC catchment area.

It is recommended that demographic factors such as age, sex, and income be used as a surrogate for the population mix and used for tracking changes in the population mix. Relatedly, it is recommended that resource allocations to the provision of health care

services in the JMMC catchment area be made based on the requirements of the population, which is quantified as population mix and reflected as demand.

Conclusion

This study has resulted in the development of a conceptual model for assessing the demand for health care services by beneficiaries of the JMMC. The model quantifies demand, relates demand to population mix, projects demand into the future and identifies demographic factors associated with demand for health care services.

The survey portion of the model could be important in the future for tracking the use of ghost services and identifying the reasons for using these services. While, with current budget constraints, it is not thought that the government is likely to want to recapture any of the ghost utilization, information about such utilization could serve useful in the event that a new service such as a Primary Care for the Uniformed Services (PRIMUS) clinic were to be planned. A portion of the ghost service users may decide to use the military system as access to care expands.

References

- Air Force Regulation 30-23. (1976, 22 September). The Air Force Personnel Survey Program.
- Beheshti, Hooshang M. and Mattson, Melvin R. (1988, December). Gauging Needs for Mental Health Services. Health Care Strategic Management, 6(12), 13-14.
- Burke, Max D.; Missler, Kenneth N.; and Williamson, Timothy D. (1988, November 30). PRIMUS/CHAMPUS Utilization Study, unpublished manuscript, Army-Baylor University Graduate Program in Health Care Administration.
- Cohn, V. (1987, August 27). PRIMUS Clinics, Military Funds - Rx to Lower Costs. Washington Post.
- Congressional Budget Office. (1988). Reforming the Military Health Care System. Washington: U.S. Government Printing Office.
- Dougherty, Elizabeth. (1989, February). Report Profiles Patient Base, Health-Care Resources. Health Care Strategic Management, 7(2), 8.
- Gould, Stephen J. (1988). Macrodynamic Trends in Health Care: A Distribution and Retailing Perspective. Health Care Management Review, 13(2), 15-22.
- Humphrey, Alan B.; Scherzer, Gary D.; Marshall, Robert J. and Buechner, Jay S. (1988). A Methodology for

Determining Hospital Service Areas with Marketing and Planning Applications. Journal of Hospital Marketing, 2(2), 87-97.

Johnson, I.S. and Milner, P.C. (1988). Is the Jarman Score Better Than Social Class at Assessing the Need for Prevention and Primary Care. Family Practice (Great Britain), 5(2), 105-110.

Keckley, Paul H. (1988). Market Research Handbook for Health Care Professionals. American Hospital Publishing, Inc.

Keeler, Emmett B. and Rolph, John E. (1988). The Demand for Episodes of Treatment in the Health Insurance Experiment. Journal of Health Economics (North-Holland), 7, 337-367.

Manning, Willard G.; Newhouse, Joseph P.; Duan, Naihua; Keeler, Emmett B.; Leibowitz, Arleen; and Marquis, Susan M. (1987, June). Health Insurance and the Demand for Medical Care: Evidence From a Randomized Experiment. The American Economic Review, 77(3), 251-77.

Norton, Catherine H. and McManus, Margeret A. (1989, February). Background Tables on Demographic Characteristics, Health Status, and Health Services Utilization. Health Services Research, 23(6), 726-756.

Rhyne, David M. and Jupp, David. (1988). Health Care

Requirements Planning: A Conceptual Framework. Health Care Management Review, 13(1), 17-27.

Rohrer, James E. (1987, Fall). Defining Service Populations for Hospitals. Journal of Health and Human Resources Administration, 10(2), 156-73.

Simmons, James. (1989, Spring). Integrating Federal Health Care Resources at the Local Level. Hospital and Health Services Administration, 34(1), 113-122.

Tauber, Geri Rieder. (1988, February). Forecast Future Health Care Needs With Demographics. Trustee, 8-9.

Womersley, John and McCauley, Douglas. (1987). Tailoring Health Services to the Needs of Individual Communities. Journal of Epidemiology and Community Health, 41, 190-195.

TABLE 1 JMMC POPULATON

<u>SEX</u>	<u>AGE</u>	<u>FY_86</u>	<u>FY_87</u>	<u>FY_88</u>	<u>FY_89</u>	<u>CUMMULATIVE</u> <u>% CHANGE</u>	<u>Ave %</u> <u>CHANGE</u>
Males_	0-17	20543	20256	20500	20237	+3.38	+.85
Females	0-17	19814	19728	19945	20259	+4.61	+1.15
Males	18-44	49043	37884	39779	32985	-32.74	-8.19
Females	18-44	37762	34003	34936	33837	-10.39	-2.60
Males	45-64	21423	21479	21796	21999	+2.69	+.67
Females	45-64	21452	21427	21934	22344	+4.16	+1.04
Males	65+	8406	9159	9679	10203	+21.38	+5.34
Females	65+	<u>__8372</u>	<u>__9029</u>	<u>_10220</u>	<u>_11531</u>	<u>+37.73</u>	<u>+9.43</u>
TOTALS		186,615	173,195	181,789	174,665	-6.50	-1.63

TABLE 2 PROJECTED JMMC POPULATION

<u>SEX</u>	<u>AGE</u>	<u>FY_90</u>	<u>FY_91</u>	<u>FY_92</u>	<u>FY_93</u>	<u>FY_94</u>
Males	0-17	21418	21600	21783	21968	22155
Females	0-17	20714	20900	21088	21278	21469
Males	18-44	30284	27803	25526	23436	21516
Females	18-44	32957	32100	31266	30453	29661
Males	45-64	22146	22294	22444	22594	22746
Females	45-64	22353	22362	22371	22380	22389
Males	65+	10748	11322	11926	12563	13234
Females	65+	<u>12618</u>	<u>13808</u>	<u>15110</u>	<u>16535</u>	<u>18095</u>
TOTALS		173,238	172,189	171,514	171,207	171,265

TABLE 3 JMMC MTFs OUTPATIENT MEDICAL CATEGORY (VISITS)

<u>SPECIALTY</u>	<u>FY 87</u>	<u>FY 88</u>	<u>FY 89</u>
BHA Primary Care	498447	478693	460636
BIA Emergency Room	92040	100433	97086
BAB Allergy Clinic	62695	64689	58062
BAC Cardiology	50090	66289	73068
BAP Dermatology	79394	82351	84909
BAG Gastroenterology	26816	27563	24930
BBH Proctology	1124	1114	840
BAH Hematology	7816	5059	4461
BAM Oncology	37363	39548	39401
BAA Internal Medicine	69461	74488	83712
BAE Diabetic Clinic	1307	2028	2275
BAF Endocrinology	14412	17145	19685
BAI Hypertension	803	664	551
BAJ Nephrology	18577	15740	17470
BAN Pulmonary	25036	23849	26957
BAO Rheumatology	30163	20756	170795
BAK Neurology	24340	26867	23863
BAL Nutrition	23513	19809	24565
BAQ Infectious Disease	15786	17286	18642
BAZ Medicine Clinic	575	1661	1151
BHB Medical Exam Clinic	7188	8506	7941
BHG Occupational Health	25331	19252	19763
BJA Flight Medicine	51441	96730	96057
TOTAL MEDICAL	1,163,718	1,210,520	1,203,120

"REPRODUCED AT GOVERNMENT EXPENSE"

TABLE 4 JMMC MTFs OUTPATIENT SURGICAL CATEGORY (VISITS)

<u>SPEICALTY</u>	<u>FY 87</u>	<u>FY 88</u>	<u>FY 89</u>
BBC Neurosurgery	6647	6898	8089
BBD Ophthalmology	43933	52607	49564
BBA general Sugery Clinic	27884	26973	24151
BBB Thoracic Surgery	3511	2131	1824
BBI Urology	28804	26658	27262
BCA Family Planning	6265	5457	4767
BHC Optometry	92573	88952	88782
BBZ Surgery Clinic	7079	7694	8581
BBF Otolaryngology	26935	25899	23802
BHD Audiology	20821	20904	21532
BHE Speech Pathology	5583	5103	4634
BBG Plastic Surgery	5813	6195	6623
BBE Organ Transplant Clinic	<u>1316</u>	<u>1185</u>	<u>1505</u>
TOTAL OUTPATIENT			
SURGICAL	277,163	276,666	271,116

TABLE 5 JMMC MTFs OUTPATIENT PSYCHIATRY CATEGORY (VISITS)

<u>SPECIALTY</u>	<u>FY 87</u>	<u>FY 88</u>	<u>FY 89</u>
BFA Psychiatry Clinic	4320	11441	9310
BFB Psychology Clinic	2059	2067	1450
BFC Child Guidance	891	942	865
BFD Mental Health	33846	93102	93546
BFE Social Work	38593	35479	35123
BFF Substance Abuse	<u>5995</u>	<u>5671</u>	<u>6129</u>
TOTAL OUTPATIENT PSYCHIATRY	85,704	148,702	146,423

TABLE 6 JMMC MTFs OUTPATIENT PEDIATRIC CATEGORY (VISITS)

<u>SPECIALTY</u>	<u>FY 87</u>	<u>FY 88</u>	<u>FY 89</u>
BDA Pediatric	93391	99638	101765
BDB Adolescent Clinic	12024	14405	13345
BDC Well Baby Clinic	10414	9986	9892
BDZ Pediatric Care	<u>2105</u>	<u>3538</u>	<u>3975</u>
TOTAL OUTPATIENT PEDIATRICS	117,934	127,887	128,997

TABLE 7 JMMC MTFs OUTPATIENT OBSTETRICS AND GYNECOLOGICAL (OB/GYN) CATEGORY (VISITS)

<u>SPECIALTY</u>	<u>FY 87</u>	<u>FY 88</u>	<u>FY 89</u>
BCB Gynecological	77630	80219	75648
BCC Obstetrics	<u>38579</u>	<u>34697</u>	<u>37908</u>
TOTAL OUTPATIENT OB/GYN	116,209	114,916	113,556

TABLE 8 JMMC MTFs OUTPATIENT ORTHOPEDICS CATEGORY (VISITS)

<u>SPECIALTY</u>	<u>FY 87</u>	<u>FY 88</u>	<u>FY 89</u>
BEA Orthopedics	43806	49558	45666
BEB Cast Clinic	12919	12693	14338
BED Neuro Musculo Screening	0	0	3159
BEE Orthopedic Appliances	7594	8260	8162
BEF Podiatry	<u>19641</u>	<u>15244</u>	<u>10779</u>
TOTAL OUTPATIENT ORTHOPEDICS	83,960	86,155	82,104

TABLE 9 JMMC MTFs INPATIENT MEDICAL CATEGORY (ADMISSIONS)

<u>SPECIALTY</u>	<u>FY 87</u>	<u>FY 88</u>	<u>FY 89</u>
AAA Internal Medicine		5274	6163
AAB Cardiology		3050	3371
AAC Coronary Care		485	532
AAD Dermatology		65	85
AAE Endocrinology		54	31
AAF Gastroenterology		2224	2135
AAG Hematology		189	217
BAH Intensive Medicine		266	27
AAI Nephrology		78	83
AAJ Neurology		797	755
AAK Oncology		1729	1382
AAL Pulmonary		271	212
AAM Rheumatology		76	52
AAZ Med Care Nec		766	355
TOTAL INPATIENT	-----	-----	-----
MEDICAL	16,193*	15,324	15,400
* Dispositions			

TABLE 10 JMMC MTFs INPATIENT SURGICAL CATEGORY (ADMISSIONS)

<u>SPECIALTY</u>	<u>FY_87</u>	<u>FY_88</u>	<u>FY_89</u>
ABA General Surgery		4915	5430
ABB C/V Surgery		390	520
ABC Intensive Care Surgery		419	58
ABD Neurosurgery		1255	1267
ABE Ophthalmology		1370	1323
ABF Oral Surgery		916	973
ABG Otolaryngology		1936	1913
ABH Pediatric Surgery		23	3
ABI Plastic Surgery		697	754
ABJ Proctology		1	1
ABK Urology		2284	2171
ABZ Surgical Care Nec		726	756
TOTAL INPATIENT	-----	-----	-----
SURGICAL	16,261*	15,132	15,169
* Dispositions			

TABLE 11 JMMC MTFs INPATIENT PSYCHIATRIC CARE CATEGORY (ADMISSIONS)

<u>SPECIALTY</u>	<u>FY 87</u>	<u>FY 88</u>	<u>FY 89</u>
AFA Psychiatry		169	1210
AFB Substance Abuse	-----	1253	37
TOTAL INPATIENT PSYCHIATRIC ADMISSIONS	1,366*	1,422	1,247
* Dispositions			

TABLE 12 JMMC MTFs INPATIENT PEDIATRIC CATEGORY (ADMISSIONS)

<u>SPECIALTY</u>	<u>FY 87</u>	<u>FY 88</u>	<u>FY 89</u>
ADA Pediatrics		2647	2392
ADB Nursery		2072	2359
ADZ Pediatrics Nec			190
ADC Neonatal ICU	-----	358	
TOTAL INPATIENT ADMISSIONS	5,656*	5,077	4,941
* Dispositions			

TABLE 13 JMMC MTFs INPATIENT OBSTETRICAL AND GYNECOLOGICAL (OB/GYN)

CATEGORY (ADMISSIONS)

SPECIALTY	FY 87	FY 88	FY 89
ACA Gynecology		2559	2664
ACB Obstetrics		3191	3085
TOTAL INPATIENT OB/GYN	6,429*	5,741	5,729
* Dispositions			

TABLE 14 JMMC MTFs INPATIENT ORTHOPEDIC CATEGORY (ADMISSIONS)

SPECIALTY	FY 87	FY 88	FY 89
AEA Orthopedics		3454	3391
AEB Podiatry		40	5
TOTAL INPATIENT ORTHOPEDIC ADMISSIONS	3,799*	3,494	3,396
* Dispositions			

TABLE 15 CHAMPUS UTILIZATION

CHAMPUS INPATIENT ADMISSIONS

CHAMPUS OUTPATIENT ADMISSIONS

SPECIALTY	FY 87	FY 88	FY 89	FY 87	FY 88	FY 89
Adverse React'ns	13	7	18	288	382	377
Allergy	9	8	12	1151	1321	2025
Cardiology	88	79	72	2512	2583	3586
Dermatology	1	1	2	1161	1277	2707
Endocrinology	7	10	6	606	880	1096
Gastroenterology	29	35	40	1114	1254	2372
Hematology	10	12	8	375	411	368
Infect Disease	4	4	14	275	324	918
Nephrology	5	3	6	138	312	325
Neurology	30	33	38	2403	2384	3762
Nutritional	3	1	0	22	205	741
Pulmonary	56	46	53	1471	1965	3773
Rheumatology	10	3	4	1085	1398	2051
Other	17	8	18	816	1071	1698
Dental	0	2	1	29	42	105
Obstetrics	53	39	44	92	136	313
Gynecology	24	13	14	558	1094	2206
Ophthalmology	9	4	5	918	1029	1876
Psychiatry (Gp 1)	337	420	520	33612	40813	46154
Psychiatry (Gp 2)	194	302	387	25678	32795	38019
Spec Pediatrics	3	4	7	640	803	1134
Otolaryngology	17	8	6	1753	2720	6016
Gen Surgery	83	88	99	2100	2691	3545
Neurosurgery	8	27	27	471	338	767
Orthopedics	63	40	37	2735	5129	7474
Thoracic	16	1	5	253	361	272
Urology	17	15	17	570	758	1623
TOTAL	1,106	1,213	1,460	82,826	104,476	135,303

TABLE 16 CHAMPUS OUTPATIENT MEDICAL CATEGORY (VISITS)

<u>SPECIALTY</u>	<u>FY_87</u>	<u>FY_88</u>	<u>FY_89</u>
Adverse Reactions	288	382	377
Allergy	1151	1321	2025
Cardiology	2512	2583	3586
Dermatology	1161	1277	2707
Endocrinology	6061	8807	1096
Gastroenterology	1114	1254	2372
Hematology	375	411	368
Infectious Disease	275	324	918
Nephrology	138	312	325
Neurology	2403	2384	3762
Nutritional	22	205	741
Pulmonary	1471	1965	3773
Rheumatology	1085	1398	2051
Other	816	1071	1698
Dental	<u>29</u>	<u>42</u>	<u>105</u>
TOTAL MEDICAL VISITS	14,446	15,809	25,904

TABLE 17 CHAMPUS OUTPATIENT SURGICAL CATEGORY (VISITS)

<u>SPECIALTY</u>	<u>FY_87</u>	<u>FY_88</u>	<u>FY_89</u>
Ophthalmology	918	1029	1876
Otolaryngology	1753	2720	6016
General Surgery	2100	2691	3545
Neurosurgery	471	338	767
Thoracic Surgery	253	361	272
Urology	570	758	1623
TOTAL SURGICAL VISITS	6,065	7,897	14,099

TABLE 18 CHAMPUS OUTPATIENT PSYCHIATRY CATEGORY (VISITS)

<u>SPECIALTY</u>	<u>FY_87</u>	<u>FY_88</u>	<u>FY_89</u>
Psychiatry (Group 1)	33612	40813	46154
Psychiatry (Group 2)	25678	32795	38019
TOTAL PSYCHIATRY VISITS	59,290	73,608	84,173

TABLE 19 CHAMPUS OUTPATIENT PEDIATRICS CATEGORY (VISITS)

<u>SPECIALTY</u>	<u>FY_87</u>	<u>FY_88</u>	<u>FY_89</u>
Pediatrics	640	803	1,134

TABLE 20 CHAMPUS OUTPATIENT OBSTETRICAL/GYNECOLOGICAL (OB/GYN) CATEGORY (VISITS)

<u>SPECIALTY</u>	<u>FY_87</u>	<u>FY_88</u>	<u>FY_89</u>
Obstetrics	92	136	313
Gynecological	<u>558</u>	<u>1094</u>	<u>2206</u>
TOTAL OB/GYN VISITS	650	1,230	2,519

TABLE 21 CHAMPUS OUTPATIENT ORTHOPEDICS CATEGORY (VISITS)

<u>SPECIALTY</u>	<u>FY_87</u>	<u>FY_88</u>	<u>FY_89</u>
Orthopedics	2,375	5,129	7,474

TABLE 22 CHAMPUS INPATIENT MEDICAL CATEGORY (ADMISSIONS)

<u>SPECIALTY</u>	<u>FY 87</u>	<u>FY 88</u>	<u>FY 89</u>
Adverse Reactions	13	7	18
Allergy	9	8	12
Cardiology	88	79	72
Dermatology	1	1	2
Endocrinology	7	10	6
Gastroenterology	29	35	40
Hematology	10	12	8
Infectious Disease	4	4	14
Nephrology	5	3	6
Neurology	30	33	38
Nutritional	3	1	0
Pulmonary	56	46	43
Rheumatology	10	3	4
Other	17	3	8
Dental	<u>0</u>	<u>2</u>	<u>1</u>
TOTAL MEDICAL ADMISSIONS	282	252	292

TABLE 23 CHAMPUS INPATIENT SURGICAL CATEGORY (ADMISSIONS)

<u>SPECIALTY</u>	<u>FY 87</u>	<u>FY 88</u>	<u>FY 89</u>
Ophthalmology	9	4	5
Otolaryngology	17	8	6
General Surgery	83	88	99
Neurosurgery	8	27	27
Thoracic Surgery	16	1	5
Urology	<u>17</u>	<u>15</u>	<u>17</u>
TOTAL SURGICAL ADMISSIONS	150	143	159

TABLE 24 CHAMPUS INPATIENT OBSTETRICAL/GYNECOLOGICAL (OB/GYN) CATEGORY
(ADMISSIONS)

<u>SPECIALTY</u>	<u>FY 87</u>	<u>FY 88</u>	<u>FY 89</u>
Obstetrics	53	39	44
Gynecology	24	13	14
TOTAL OB/GYN ADMISSIONS	77	52	58

TABLE 25 CHAMPUS INPATIENT PSYCHIATRY CATEGORY (ADMISSIONS)

<u>SPECIALTY</u>	<u>FY 87</u>	<u>FY 88</u>	<u>FY 89</u>
Psychiatry (Group 1)	337	420	520
Psychiatry (Group 2)	194	302	387
TOTAL PSYCHIATRY ADMISSIONS	531	722	907

TABLE 26 CHAMPUS INPATIENT PEDIATRIC CATEGORY (ADMISSIONS)

<u>SPECIALTY</u>	<u>FY 87</u>	<u>FY 88</u>	<u>FY 89</u>
Pediatrics	3	4	7

TABLE 27 CHAMPUS INPATIENT ORTHOPEDIC CATEGORY (ADMISSIONS)

<u>SPECIALTY</u>	<u>FY 87</u>	<u>FY 88</u>	<u>FY 89</u>
Orthopedics	63	40	37

TABLE 28 1987 TOTAL JMMC OUTPATIENT DEMANDS (VISITS)

<u>CATEGORY</u>	<u>JMMC</u> <u>MTFs</u>	<u>+</u>	<u>CHAMPUS</u>	<u>=</u>	<u>TOTAL DEMAND</u>
Medical	1163718	+	13446	=	1177164
Surgical	277163	+	6065	=	283228
Psychiatry	85704	+	59290	=	144994
Pediatrics	117934	+	640	=	118574
OB/GYN	116209	+	650	=	116859
Orthopedics	83960	+	2735	=	86695
TOTALS	1,844,688	+	82,826	=	1,927,514

TABLE 29 1988 TOTAL JMMC OUTPATIENT DEMAND (VISITS)

<u>CATEGORY</u>	<u>JMMC</u> <u>MTFs</u>	+	<u>CHAMPUS</u>	=	<u>TOTAL DEMAND</u>
Medical	1168919	+	15809	=	1184728
Surgical	276666	+	7897	=	284563
Psychiatry	148702	+	73608	=	222310
Pediatric	127887	+	803	=	128690
OB/GYN	114916	+	1230	=	116146
Orthopedics	86155	+	5127	=	91282
TOTALS	1,923,245	+	104,474	=	2,027,719

TABLE 30 1989 TOTAL JMMC OUTPATIENT DEMAND (VISITS)

<u>CATEGORY</u>	<u>JMMC</u> <u>MTFs</u>	<u>+</u>	<u>CHAMPUS</u>	<u>=</u>	<u>TOTAL DEMAND</u>
Medical	1203120	+	2594	=	1229024
Surgical	271116	+	14099	=	285215
Psychiatry	146423	+	84173	=	230596
Pediatric	128977	+	1134	=	130111
OB/GYN	113556	+	2519	=	116075
Orthopedics	82104	+	7474	=	89578
TOTALS	1,945,296	+	135,303	=	2,080,599

TABLE 31 1987 TOTAL JMMC INPATIENT DEMAND (ADMISSIONS)

<u>CATEGORY</u>	<u>JMMC</u>		<u>CHAMPUS</u>	=	<u>TOTAL DEMAND</u>
	<u>MTFs</u>	+		=	
Medical	16193*	+	282	=	16475
Surgical	16261*	+	150	=	16411
Psychiatry	1366*	+	531	=	1897
Pediatrics	5656*	+	3	=	5659
OB/GYN	6429*	+	77	=	6506
Orthopedics	3799*	+	64	=	3863
TOTALS	49,704*	+	1,107	=	50,810

* Disposition

TABLE 32 1988 TOTAL JMMC INPATIENT DEMAND (ADMISSIONS)

<u>CATEGORY</u>	<u>JMMC</u>		<u>CHAMPUS</u>	=	<u>TOTAL DEMAND</u>
	<u>MTFs</u>	<u>+</u>			
Medical	15327	+	252	=	15579
Surgical	15132	+	143	=	15275
Psychiatry	1422	+	722	=	2144
Pediatric	5077	+	4	=	5081
OB/GYN	5741	+	52	=	5793
Orthopedics	<u>3494</u>	+	<u>40</u>	=	<u>3534</u>
TOTALS	46,193	+	1,213	=	47,406

TABLE 33 1989 TOTAL JMMC INPATIENT DEMAND (ADMISSIONS)

<u>CATEGORY</u>	<u>JMMC</u> <u>MTFs</u>	+	<u>CHAMPUS</u>	=	<u>TOTAL DEMAND</u>
Medical	15400	+	292	=	15692
Surgical	15169	+	159	=	15328
Psychiatry	1247	+	907	=	2154
Pediatric	4941	+	7	=	4948
OB/GYN	5729	+	58	=	5787
Orthopedics	3396	+	37	=	3433
TOTALS	45,882	+	1,460	=	47,342

TABLE 34 SUBJECTIVE UTILIZATION - OUTPATIENT VISITS
MAY 1989 - APR 1990

	<u>MED</u>	<u>SURG</u>	<u>OB/GYN</u>	<u>PSYCH</u>	<u>PEDS</u>	<u>ORTHO</u>	<u>TOTAL</u>
JMMC MTFs	3639	639	371	70	253	172	5144
CHAMPUS	125	37	19	147	15	24	367
OTHER SOURCES	607	111	32	8	0	48	806
TOTAL OUTPATIENT VISITS	4,371	787	422	225	268	244	6,317

TABLE 35 SUBJECTIVE UTILIZATION - OUTPATIENT INCIDENCE RATES

	<u>MED</u>	<u>SURG</u>	<u>OB/GYN</u>	<u>PSYCH</u>	<u>PEDS</u>	<u>ORTHO</u>	<u>TOTAL</u>
JMMC MTFs	5.4196	.9509	.5521	.1042	.3765	.2560	7.6593
CHAMPUS	.1960	.0551	.0283	.2188	.0223	.0357	.5462
OTHER SOURCES	.9033	.1652	.0476	.0119	.0000	.0714	1.1994
TOTAL INCIDENCE Rates	6.5089	1.1762	.6280	.3349	.3988	.3631	9.4049

TABLE 36 TOTAL SUBJECTIVE UTILIZATION FOR OUTPATIENT VISITS
(APPLIES TO POPULATION 174,665)

OUTPATIENT VISITS

	<u>MED</u>	<u>SURG</u>	<u>OB/GYN</u>	<u>PSYCH</u>	<u>PEDS</u>	<u>ORTHO</u>	<u>TOTAL</u>
JMMC	946614	166089	96433	18200	65761	44714	133781
CHAMPUS	32488	9624	4943	38216	3895	6236	9542
OTHER SOURCES	157775	28855	8314	2079	0	12471	209493
TOTAL OUTPATIENT UTILIZATION	1,113,677	204,568	109,690	58,495	69,656	63,421	1,642,706

TABLE 37 SUBJECTIVE UTILIZATION - INPATIENT ADMISSIONS

	<u>MED</u>	<u>SURG</u>	<u>OB/GYN</u>	<u>PSYCH</u>	<u>PEDS</u>	<u>ORTHO</u>	<u>TOTAL</u>
JMMC MTFs	88	40	14	0	3	10	155
CHAMPUS	6	0	0	3	1	0	10
OTHER SOURCES	16	5	0	0	0	3	24
TOTAL ADMISSION	110	45	14	3	4	13	189

TABLE 38 SUBJECTIVE UTILIZATION - INPATIENT INCIDENCE RATES

	<u>MED</u>	<u>SURG</u>	<u>OB/GYN</u>	<u>PSYCH</u>	<u>PEDS</u>	<u>ORTHO</u>	<u>TOTAL</u>
JMMC MTFs	.1310	.0595	.0208	.0000	.0045	.0149	.2307
CHAMPUS	.0089	.0000	.0000	.0045	.0015	.0000	.0149
OTHER SOURCES	.0238	.0074	.0000	.0000	.0000	.0045	.0357
TOTAL INCIDENCE RATES	.1637	.0669	.0208	.0045	.0060	.0194	.2813

TABLE 39 TOTAL SUBJECTIVE UTILIZATION FOR INPATIENT ADMISSIONS

	<u>MED</u>	<u>SURG</u>	<u>OB/GYN</u>	<u>PSYCH</u>	<u>PEDS</u>	<u>ORTHO</u>	<u>TOTAL</u>
JMMC MTFs	22881	10393	3633	0	786	2603	40296
CHAMPUS	1555	0	0	786	261	0	2602
OTHER SOURCES	4157	1293	0	0	0	786	6236
TOTAL INCIDENCE RATES	28,593	11,686	3,633	786	1,047	3,389	49,134

Utilization obtained by multiplying the incidence rates from table 32 by the total JMMC population from 1989 of 174,655

TABLE 40 COMPARISONS OF OBJECTIVELY & SUBJECTIVELY REPORTED UTILIZATION
OUTPATIENT VISITS

	A OBJECTIVE (MEPRS, OCHAMPUS)	B SUBJECTIVE (SURVEY)	(A-B) DIFFERENCE	CORRECTION FACTOR (A/B)
<u>MEDICAL CATEGORY</u>				
JMMC MTFs	1203120	946614	+256506	1.271
CHAMPUS	<u>25904</u>	<u>32488</u>	<u>-654</u>	.797
SUBTOTALS	1,229,024	979,102	+249,922	1.255
<u>SURGICAL CATEGORY</u>				
JMMC MTFs	271116	166089	+105027	1.632
CHAMPUS	<u>14099</u>	<u>9624</u>	<u>+4475</u>	1.465
SUBTOTALS	285,215	175,713	+109,502	1.623
<u>PSYCHIATRY CATEGORY</u>				
JMMC MTFs	146423	18200	+128223	8.045
CHAMPUS	<u>84173</u>	<u>38216</u>	<u>+45957</u>	2.203
SUBTOTALS	230,596	56,416	174,180	4.087
<u>PEDIATRICS CATEGORY</u>				
JMMC MTFs	128977	65761	+63216	1.961
CHAMPUS	<u>1134</u>	<u>3895</u>	<u>-2761</u>	.291
SUBTOTALS	130,111	69,656	+60,455	1.868
<u>OB/GYN CATEGORY</u>				
JMMC MTFs	113556	96433	+17123	1.178
CHAMPUS	<u>2519</u>	<u>4943</u>	<u>-2424</u>	.510
SUBTOTALS	116,075	101,376	+14,699	1.145
<u>ORTHOPEDICS</u>				
JMMC MTFs	82104	44714	+37390	1.836
CHAMPUS	<u>7474</u>	<u>6236</u>	<u>+1238</u>	1.199
SUBTOTALS	89,578	50,950	+140,528	1.758
JMMC MTF TOTALS	1945296	1337811	607485	1.454
CHAMPUS TOTALS	<u>135303</u>	<u>95402</u>	<u>39901</u>	1.419
GRAND TOTALS	2,080,599	1,433,212	647,386	1.452

TABLE 41 COMPARISONS OF SUBJECTIVELY AND OBJECTIVELY REPORTED UTILIZATION

INPATIENT ADMISSIONS				
	(A) OBJECTIVE MEPRS, OCHAMPUS	(B) SUBJ SURVEY	(A-B) DIFFERENCE	(A/B) CORRECTION FACTOR
<u>MEDICAL CATEGORY</u>				
JMMC MTFs	15400	22881	-7481	.673
CHAMPUS	292	1555	-1263	.188
SUBTOTALS	15692	24436	-8744	.642
<u>SURGICAL CATEGORY</u>				
JMMC MTFs	15169	10393	+4776	1.460
CHAMPUS	159	0	+159	UNDEFINED
SUBTOTALS	15328	10393	+4935	1.475
<u>PSYCHIATRY CATEGORY</u>				
JMMC MTFs	1247	0	+1247	UNDEFINED
CHAMPUS	907	786	+121	1.154
SUBTOTALS	2154	786	1368	2.740
<u>PEDIATRIC CATEGORY</u>				
JMMC MTFs	4941	786	+4155	6.287
CHAMPUS	7	261	-224	.027
SUBTOTALS	4948	1047	3901	4.726
<u>OB/GYN CATEGORY</u>				
JMMC MTFs	5729	3633	2096	1.577
CHAMPUS	58	0	+58	UNDEFINED
SUBTOTALS	5787	3633	2154	1.593
<u>ORTHOPEDIC CATEGORY</u>				
JMMC MTFs	3396	2603	+793	1.305
CHAMPUS	37	0	+37	UNDEFINED
SUBTOTALS	3433	2603	830	1.319
JMMC MTFs TOTALS	45882	40296	+5586	1.139
CHAMPUS TOTALS	1460	2602	-1142	.561
GRAND TOTALS	47342	42898	4444	1.104

"REPRODUCED AT GOVERNMENT EXPENSE"

TABLE 42 TOTAL JMMC OUTPATIENT DEMAND FOR 1989 (IN VISITS)

CATEGORY	JMMC MTFs	+	CHAMPUS	+	GHOST SERVICES	=	TOTAL DEMAND
Medical	1203120		25904		157775		1386799
Surgical	271116		14099		28855		314070
Psychiatry	146423		84173		8314		238910
Pediatric	128977		1134		2079		132190
OB\GYN	113556		2519		0		116075
Orthopedics	82104		7474		12471		102049
TOTALS	1,945,296		135,303		209494		2,290,093

TABLE 43 TOTAL JMMC OUTPATIENT DEMAND FOR 1989 (IN VISITS) (APPLYING PERCEPTUAL ERROR FACTOR)

CATEGORY	JMMC MTFs	+	CHAMPUS	+	GHOST SERVICES	=	TOTAL DEMAND
Medical	1203120		25904		198007		1427301
Surgical	271116		14099		46832		332047
Psychiatry	146423		84173		33979		264575
Pediatric	128977		1134		3884		133995
OB\GYN	113556		2519		0		116075
Orthopedics	82104		7474		21924		111502
TOTALS	1,945,296		135,303		304,626		2,385,225

TABLE 44 TOTAL JMMC INPATIENT DEMAND FOR 1989 (IN ADMISSIONS)

CATEGORY	JMMC MTFs	+	CHAMPUS	+	GHOST SERVICES	=	TOTAL DEMAND
Medical	15400		292		4157		19849
Surgical	15169		159		1293		16621
Psychiatry	1247		907		0		2154
Pediatric	4941		7		0		4948
OB/GYN	5729		58		0		5787
Orthopedics	3396		37		786		4219
TOTALS	45882		1460		6236		53578

TABLE 45 TOTAL JMMC INPATIENT DEMAND FOR 1989 (IN ADMISSIONS) APPLYING PERCEPTUAL ERROR FACTOR)

CATEGORY	JMMC MTFs	+	CHAMPUS	+	GHOST SERVICES	=	TOTAL DEMAND
Medical	15400		292		2669		18361
Surgical	15169		159		1907		17235
Psychiatry	1247		907		0		2154
Pediatric	4941		7		0		4948
OB/GYN	5729		58		0		5787
Orthopedics	3396		37		1037		4470
TOTALS	45882		1460		5613		52955

TABLE 46 JMMC MTFs OUTPATIENT INCIDENCE RATES - MEDICAL CATEGORY
(VISITS PER MEMBER YEAR)

<u>SPECIALTY</u>			
<u>MEDICAL CATEGORY</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>
BHA Primary Care	2.878	2.633	2.637
BIA Emergency Room	.531	.552	.556
BAB Allergy Clinic	.362	.356	.332
BAC Cardiology	.289	.365	.418
BAP Dermatology	.458	.453	.486
BAG Gastroenterology	.155	.151	.143
BBH Proctology	.006	.006	.005
BAH Hematology	.045	.028	.026
BAM Oncology	.216	.218	.226
BAA Internal Med	.401	.410	.479
BAE Diabetic Clinic	.008	.011	.013
BAF Endocrinology	.083	.094	.113
BAI Hypertension	.005	.004	.003
ABJ Nephrology	.107	.087	.100
ABN Pulmonary	.145	.131	.154
ABO Rheumatology	.174	.114	.098
BAK Neurology	.141	.148	.137
BAL Nutrition	.136	.109	.141
BAQ Infectious Dis	.091	.095	.107
BAZ Medicine Clin	.003	.009	.007
BHB Med Exam Clin	.042	.047	.045
BHG Occupational Hlt	.146	.106	.113
BJA Flight Med	.297	.532	.550
TOTAL MTF OUTPATIENT			
MEDICAL INCIDENCE RATES	6.719	6.658	6.668
	1987	1988	1989
Population	173,195	181,789	174,665

"REPRODUCED AT GOVERNMENT EXPENSE"

TABLE 47 JMMC MTFs OUTPATIENT INCIDENCE RATES - SURGICAL CATEGORY
(VISITS PER MEMBER YEAR)

<u>SPECIALTY</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>
BBC Neurosurgery	.038	.038	.046
BBD Ophthalmology	.254	.289	.284
BBA General Surgery	.161	.148	.138
BBB Thoracic Surgery	.020	.012	.010
BBI Urology	.166	.147	.156
BCA Family Planning	.036	.030	.027
BHA Optometry	.535	.489	.508
BBZ Surgery Clinic	.041	.042	.049
BBF Otolaryngology	.156	.142	.136
BHD Audiology	.120	.115	.123
BHR Speech Pathology	.032	.028	.027
EBG Plastic Surgery	.034	.034	.038
BEE Organ Transplant	<u>-.008</u>	<u>-.009</u>	<u>-.007</u>
TOTAL MTF OUTPATIENT SURGICAL INCIDENCE RATES	1.600	1.597	1.552

	<u>1987</u>	<u>1988</u>	<u>1989</u>
Population:	173,195	181,789	174,665

TABLE 48 JMMC MTFs OUTPATIENT INCIDENCE RATES - PSYCHIATRY CATEGORY
(VISITS PER MEMBER YEAR)

<u>SPECIALTY</u>	<u>YEARS</u>		
<u>PSYCHIATRY CATEGORY</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>
BFA Psychiatry Clinic	.025	.063	.053
BFB Psychology Clinic	.012	.011	.008
BFC Child Guidance Clinic	.005	.005	.005
BFD Mental Health	.195	.512	.536
BFE Social Work	.223	.195	.201
BFF Substance Abuse	.035	.031	.035
TOTAL OUTPATIENT PSYCHIATRY INCIDENCE RATES	.495	.818	.838
	1987	1988	1989
Population:	173,195	181,789	174,665

TABLE 49 JMMC MTFs OUTPATIENT INCIDENCE RATES - OBSTETRICS AND
GYNECOLOGICAL (OB/GYN) CATEGORY (VISITS PER MEMBER YEAR)

<u>SPECIALTY</u>	<u>YEARS</u>		
<u>OB/GYN CATEGORY</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>
BCB Gynecological	.922	.922	.857
BCC Obstetrics	.458	.399	.430
TOTAL OUTPATIENT OB/GYN INCIDENCE RATES	1.380	1.320	1.287
	1987	1988	1989
Female Population:	84,187	87,035	88,241

TABLE 50 JMMC MTFs OUTPATIENT INCIDENCE RATES - ORTHOPEDICS CATEGORY
(VISITS PER MEMBER YEAR)

<u>SPECIALTY</u>	<u>YEARS</u>		
<u>ORTHOPEDICS CATEGORY</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>
BEA Orthopedics	.235	.275	.261
BEB Cast Clinic	.075	.070	.082
BED Neuro Musculo Scrng	-	-	.018
BEE Orthopedics Appliance	.044	.045	.047
BEF Podiatry	.113	.084	.062
TOTAL OUPATIENT ORTHOPEDICS INCIDENCE RATE	.485	.474	.470
	1987	1988	1989
Population:	173,195	181,789	174,665

TABLE 51 JMMC MTFs OUTPATIENT INCIDENCE RATES - PEDIATRICS CATEGORY
(VISITS PER MEMBER YEAR)

<u>SPECIALTY</u>	<u>YEARS</u>		
<u>PEDIATRIC CATEGORY</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>
BDA Pediatrics	2.320	2.464	2.437
BDB Adolescent Clinic	.299	.356	.320
BDC Well Baby Clinic	.259	.247	.237
BDZ Pediatric Care	.052	.095	.094
TOTAL OUTPATIENT PEDIATRIC INCIDENCE RATES	2.930	3.162	3.086
	1987	1988	1989
Population:	40,254	40,445	41,766
(17 yrs and younger)			

TABLE 52 TOTAL JMMC OUTPATIENT INCIDENCE RATES (VISITS PER MEMBER YEAR)

<u>SPECIALTY</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>AVE % CHANGE</u>
Medical	6.719	6.658	6.888	1.26
Surgical	1.600	1.522	1.522	(2.40)
Psychiatry	.495	.818	.838	34.71
Pediatrics	2.930	3.162	3.088	2.70
OB/GYN	1.380	1.320	1.287	(3.39)
Orthopedics	<u>.485</u>	<u>.474</u>	<u>.470</u>	(1.52)
TOTAL JMMC MTFs	13.609	13.954	14.123	
INCIDENCE RATES				

TABLE 53 JMMC MTFs INPATIENT INCIDENCE RATES - ALL SUBCATEGORIES
(ADMISSIONS PER MEMBER YEAR)

<u>SPECIALTY</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>
Medical*	.093	.084	.088
Surgical*	.094	.083	.087
Psychiatry*	.008	.008	.007
Pediatric**	.141	.126	.118
OB/GYN***	.076	.066	.033
Orthopedics*	<u>.022</u>	<u>.019</u>	<u>.019</u>
TOTAL INCIDENCE RATES	.434	.386	.352
Population:	1987	1988	1989
*Total	171395	181789	174665
**17 yrs & younger	40254	40445	41766
***Female	84187	87035	88241

TABLE 54 CHAMPUS OUTPATIENT INCIDENCE RATES - MEDICAL CATEGORY
(VISITS PER MEMBER YEAR)

<u>SPECIALTY</u>	<u>YEARS</u>		
<u>MEDICAL CATEGORY</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>
Adverse Reactions	.002	.002	.002
Allergy	.007	.007	.012
Cardiology	.015	.014	.021
Dermatology	.007	.007	.015
Endocrinology	.003	.005	.006
Gastroenterology	.006	.007	.014
Hematology	.002	.002	.002
Infectious Disease	.002	.002	.005
Nephrology	.001	.002	.002
Neurology	.014	.013	.022
Nutritional	.001	.001	.004
Pulmonary	.008	.010	.022
Rheumatology	.006	.008	.012
Other	.005	.006	.010
Dental	.0002	.0002	.001
TOTAL OUTPATIENT MEDICAL INCIDENCE RATES	.078	.087	.148
Population:	1987 173,195	1988 181,789	1989 174,665

"REPRODUCED AT GOVERNMENT EXPENSE"

TABLE 55 CHAMPUS OUTPATIENT INCIDENCE RATES - SURGICAL CATEGORY
(VISITS PER MEMBER YEAR)

<u>SPECIALTY</u>	<u>YEARS</u>		
<u>SURGICAL CATEGORY</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>
Ophthalmology	.005	.006	.011
Otolaryngology	.010	.015	.034
General Surgery	.012	.015	.020
Neurosurgery	.003	.002	.004
Thoracic Surgery	.002	.002	.002
Urology	.003	.004	.009
TOTAL OUTPATIENT SURGICAL INCIDENCE RATES	.035	.043	.081

TABLE 56 CHAMPUS OUTPATIENT INCIDENCE RATES - OBSTETRICAL/GYNECOLOGICAL
(OB/GYN) CATEGORY (VISITS PER MEMBER YEAR)

<u>SPECIALTY</u>	<u>YEARS</u>		
<u>OB/GYN CATEGORY</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>
Obstetrics	.001	.002	.004
Gynecology	.007	.013	.025
TOTAL OUTPATIENT OB/GYN INCIDENCE RATES	.008	.014	.029
	1987	1988	1989
Population:	84,187	87,035	88,241

TABLE 57 CHAMPUS OUTPATIENT INCIDENCE RATES - PSYCHIATRY CATEGORY
(VISITS PER MEMBER YEAR)

<u>SPECIALTY</u>	<u>YEARS</u>		
<u>PSYCHIATRY CATEGORY</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>
Psychiatry (Group 1)	.194	.225	.264
Psychiatry (Group 2)	.148	.180	.218
TOTAL OUTPATIENT PSYCHIATRY INCIDENCE RATES	.042	.405	.482
	1987	1988	1989
Population:	173,195	181,789	174,665

TABLE 58 CHAMPUS OUTPATIENT INCIDENCE RATES - PEDIATRICS CATEGORY
(VISITS PER MEMBER YEAR)

<u>SPECIALTY</u>	<u>YEARS</u>		
<u>PEDIATRICS CATEGORY</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>
Pediatrics	.016	.020	.027
	1987	1988	1989
Population:	40,254	40,445	41,766
(17 yrs & younger)			

TABLE 59 CHAMPUS OUTPATIENT INCIDENCE RATES - ORTHOPEDICS CATEGORY
(VISITS PER MEMBER YEAR)

<u>SPECIALTY</u>	<u>YEARS</u>		
<u>ORTHOPEDICS CATEGORY</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>
Orthopedics	.016	.028	.043
	1987	1988	1989
Population:	173,195	181,789	174,665

TABLE 60 CHAMPUS OUTPATIENT INCIDENCE RATES

<u>SPECIALTY</u>	<u>1987</u>	<u>1988</u>	<u>1999</u>	<u>AVE % Change</u>
Medical	.078	.087	.148	29.91
Surgical	.035	.043	.081	43.81
Psychiatry	.342	.405	.482	13.65
Pediatrics	.016	.020	.027	22.92
OB/GYN	.008	.014	.029	85.75
Orthopedics	<u>.016</u>	<u>.028</u>	<u>.043</u>	<u>56.25</u>
TOTAL CHAMPUS INCIDENCE RATES	.495	.597	.810	21.21

TABLE 61 CHAMPUS INPATIENT INCIDENCE RATES - MEDICAL CATEGORY
(ADMISSION PER MEMBER YEAR)

<u>SPECIALTY</u>	<u>YEARS</u>		
<u>MEDICAL CATEGORY</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>
Adverse Reactions	.00008	.00004	.00010
Allergy	.00005	.00004	.00007
Cardiology	.00005	.00043	.00041
Dermatology	-	-	.00001
Endocrinology	.00004	.00006	.00003
Gastroenterology	.00017	.00020	.00023
Hematology	.00006	.00007	.00005
Infectious Disease	.00002	.00002	.00005
Nephrology	.00003	.00002	.00003
Neurology	.00017	.00020	.00022
Nutritional	.00002	-	-
Pulmonary	.00032	.00027	.00030
Rheumatology	.00006	.00002	.00002
Other	.00010	.00005	.00010
Dental	-----	.00001	-----
TOTAL CHAMPUS INPATIENT MEDICAL INCIDENCE RATES	.00163	.00139	.00167
	1987	1988	1989
Population:	173,195	181,789	174,655

TABLE 62 CHAMPUS INPATIENT INCIDENCE RATES (ADMISSIONS PER MEMBER YEAR)

<u>SPECIALTY</u>	<u>YEARS</u>		
<u>SURGICAL CATEGORY</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>
Ophthalmology	.00005	.00002	.00003
Otolaryngology	.00010	.00004	.00003
Genreal Surgery	.00048	.00048	.00057
Neruosurgery	.00005	.00015	.00015
Thoracic Surgery	.00009	-	.00003
Urology	.00010	.00008	.00010
TOTAL INPATIENT			
SURGICAL INCIDENCE RATES	.00087	.00079	.00091
<u>PSYCHIATRIC CATEGORY</u>			
Psychiatry (Group 1)	.00195	.00231	.00298
Psychiatry (Group 2)	.00112	.00166	.00222
TOTAL INPATIENT			
PSYCHIATRY INCIDENCE RATES	.00307	.00397	.00520
<u>OB/GYN CATEGORY</u>			
Obstetrics	.00031	.00021	.00025
Gynecology	.00014	.00007	.00008
TOTAL INPATIENT			
OB/GYN INCIDENCE RATES	.00044	.00029	.00033
<u>PEDIATRIC CATEGORY</u>			
Pediatrics	.00001	.00001	.00002
<u>ORTHOPEDICS CATEGORY</u>			
Orthopedics	.00036	.00022	.00021

TABLE 63 TOTAL CHAMPUS INPATIENT INCIDENCE RATES

<u>SPECIALTY</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>AVE % Change</u>
Medical	.00163	.00139	.00167	.82
Surgical	.00087	.00079	.00091	1.53
Psychiatry	.00307	.00379	.00520	23.13
Pediatrics	.00001	.00001	.00002	33.33
OB/GYN	.00044	.00029	.00033	8.33
Orthopedics	.00036	.00022	.00021	13.89
TOTAL CHAMPUS INCIDENCE RATES	.00638	.00667	.00834	10.24

TABLE 64 TOTAL OUTPATIENT INCIDENCE RATES

<u>SPECIALTY</u>	<u>JMMC MTFs</u>	<u>CHAMPUS</u>	<u>GHOST SOURCES</u>	<u>TOTAL INCIDENCE RATES</u>
Medical	6.888	.148	.9033	7.9393
Surgical	1.552	.081	.1652	1.7982
Psychiatry	.838	.482	.0476	1.3676
Pediatrics	3.088	.027	.0119	3.1269
OB/GYN	1.287	.029	.0000	1.3160
Orthopedics	_.470	.043	_.0714	_.5844
TOTALS	14.123	.810	1.1994	16.1324

TABLE 65 TOTAL INPATIENT INCIDENCE RATES

<u>SPECIALTY</u>	<u>JMMC</u> <u>MTFs</u>	<u>CHAMPUS</u>	<u>GHOST</u> <u>SERVICES</u>	<u>TOTAL</u> <u>INCIDENCE RATES</u>
Medical	.088	.00167	.0238	.11347
Surgical	.087	.00091	.0074	.09531
Psychiatry	.007	.000520	.0000	.01220
Pediatrics	.118	.00002	.0000	.11802
OB/GYN	.033	.00033	.0000	.03333
Orthopedics	.019	.00021	.0045	.02371
TOTALS	.352	.00834	.0357	.39604

TABLE 66 PROJECTED OUTPATIENT INCIDENCE RATES (VISITS PER MEMBER YEAR)

<u>JMMC MTFs</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>
Medical	6.975	7.063	7.152	7.242	7.333
Surgical	1.515	1.479	1.443	1.408	1.375
Psychiatry	1.129	1.521	2.050	2.761	3.719
Pediatrics	3.171	3.257	3.345	3.435	3.528
OB/GYN	1.243	1.201	1.160	1.121	1.083
Orthopedics	<u>.463</u>	<u>.456</u>	<u>.449</u>	<u>.442</u>	<u>.435</u>
SUBTOTALS	14.496	14.997	15.599	16.409	17.473
<u>CHAMPUS</u>					
Medical	.215	.313	.455	.661	.961
Surgical	.133	.220	.364	.602	.996
Psychiatry	.580	.698	.841	1.012	1.219
Pediatrics	.037	.050	.068	.093	.126
OB/GYN	.067	.157	.370	.870	2.05
Orthopedics	<u>.080</u>	<u>.147</u>	<u>.273</u>	<u>.506</u>	<u>.939</u>
SUBTOTALS	1.112	1.585	2.371	3.744	6.291
<u>GHOST USAGE</u>					
Medical	.903	.903	.903	.903	.903
Surgical	.165	.165	.165	.165	.165
Psychiatry	.012	.012	.012	.012	.012
Pediatrics	.000	.000	.000	.000	.000
OB/GYN	.048	.048	.048	.048	.048
Orthopedics	<u>.071</u>	<u>.071</u>	<u>.071</u>	<u>.071</u>	<u>.071</u>
SUBTOTALS	1.199	1.199	1.199	1.199	1.199
GRAND TOTALS	16.807	17.781	19.169	21.352	24.963 +48.53%

TABLE 67 PROJECTED OUTPATIENT DEMAND (IN VISITS)

<u>JMMC MTFs</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>
Medical	1208335	1216171	1226668	1239881	1255886
Surgical	262456	254668	247495	241059	235489
Psychiatry	195586	261899	351604	472703	636935
Pediatrics	549338	560820	573714	588096	604223
OB/GYN	215334	206799	198956	191923	185480
Orthopedics	80209	78518	77010	75673	74500
SUBTOTALS	2,511,258	2,578,875	2,675,447	2,809,335	2,992,513
<u>CHAMPUS</u>					
Medical	37246	53895	78039	113168	164586
Surgical	23041	37882	62431	103067	170580
Psychiatry	100478	120188	144243	173261	208772
Pediatrics	6410	8609	11663	15922	21579
OB/GYN	11607	27034	63460	148950	351093
Orthopedics	13859	25312	46823	86631	150818
SUBTOTALS	192,641	272,920	406,659	640,999	1,077,428
<u>GHOST USAGE</u>					
Medical	156434	155487	154877	154600	154652
Surgical	28584	28411	28300	28249	28259
Psychiatry	2079	2066	2058	2054	2055
Pediatrics	0	0	0	0	0
OB/GYN	8315	8265	8233	8218	8220
Orthopedics	12300	12225	12177	12156	12160
SUBTOTALS	207,712	206,454	205,645	205,277	205,346
GRAND TOTALS	2,911,611	3,058,249	3,287,751	3,655,611	4,275,287

TABLE 68 PROJECTED INPATIENT INCIDENCE RATES (IN ADMISSIONS PER MEMBER YEAR)

<u>JMMC MTFs</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>
Medical	.0859	.0837	.0815	.0794	.0774
Surgical	.0834	.0802	.0772	.0742	.0714
Psychiatry	.0067	.0063	.0060	.0056	.0053
Pediatrics	.1088	.1000	.0920	.0846	.0778
OB/GYN	.0662	.0558	.0517	.0480	.0444
Orthopedics	.0183	.0172	.0162	.0152	.0143
SUBTOTALS	.3693	.3432	.3246	.3070	.2906
<u>CHAMPUS</u>					
Medical	.0018	.0018	.0019	.0019	.0020
Surgical	.0009	.0009	.0009	.0009	.0009
Psychiatry	.0070	.0093	.0125	.0167	.0224
Pediatrics	.0003	.0005	.0007	.0011	.0016
OB/GYN	.0006	.0006	.0005	.0004	.0004
Orthopedics	.0002	.0001	.0001	.0001	.0000
SUBTOTALS	.0108	.0132	.0166	.0211	.0273
<u>GHOST USAGE</u>					
Medical	.0238	.0238	.0238	.0238	.0238
Surgical	.0074	.0074	.0074	.0074	.0074
Psychiatry	0	0	0	0	0
Pediatrics	0	0	0	0	0
OB/GYN	0	0	0	0	0
Orthopedics	.0045	.0045	.0045	.0045	.0045
SUBTOTALS	.0357	.0357	.0357	.0357	.0357
GRAND TOTALS	.4158	.3921	.3769	.3638	.3536

TABLE 69 PROJECTED INPATIENT DEMAND (IN ADMISSIONS)

<u>JMMC MTFs</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>
Medical	14881	14412	13978	13594	13256
Surgical	14448	13810	13241	12704	12228
Psychiatry	1161	1085	1029	959	908
Pediatrics	18848	17219	15779	14484	13324
OB/GYN	11468	9608	8867	8218	7604
Orthopedics	<u>3170</u>	<u>2962</u>	<u>2779</u>	<u>2602</u>	<u>2449</u>
SUBTOTALS	63,976	59,096	55,673	52,561	49,769
<u>CHAMPUS</u>					
Medical	312	310	326	325	342
Surgical	156	155	154	154	154
Psychiatry	1213	1601	2144	2859	3836
Pediatrics	52	86	120	188	274
OB/GYN	104	103	86	68	69
Orthopedics	<u>35</u>	<u>17</u>	<u>17</u>	<u>17</u>	<u>0</u>
SUBTOTALS	1,872	2,272	2,847	3,611	4,675
<u>GHOST USAGE</u>					
Medical	4123	4098	4082	4075	4076
Surgical	1282	1274	1269	1267	1267
Psychiatry	0	0	0	0	0
Pediatrics	0	0	0	0	0
OB/GYN	0	0	0	0	0
Orthopedics	<u>780</u>	<u>775</u>	<u>772</u>	<u>770</u>	<u>771</u>
SUBTOTALS	6,185	6,147	6,123	6,112	6,114
GRAND TOTALS	72,033	67,515	64,643	62,284	60,558

TABLE 70 ANALYSIS OF VARIANCE CHAMPUS MEDICAL VISITS

Criterion Variable: CHAMPUS MEDICAL VISITS

Broken Down By: AGE

<u>AGE GROUP</u>	<u>SUM</u>	<u>MEAN</u>	<u>STD DEV</u>	<u>SUM OF SQ</u>	<u>CASES</u>
0-17 years	29	.2214	1.0691	148.5802	131
18-44 years	13	.0607	.3639	28.2103	214
45-64 years	74	.3682	2.6896	1446.7562	201
65+ years	9	.0714	.6472	52.3571	126
Group Totals	125	.1860	1.5839	1675.9038	672

Source	Sum of Squares	D.F.	Mean Square	F	SIG
Between Groups	11.8447	3	3.9482	1.5737	.1945
Within Groups	1675.9038	668	2.5088		

ETA=.0838

ETA SQ = .0070

Criterion Variable: CHAMPUS MEDICAL VISITS

Broken Down By: INCOME

<u>AGE GROUP</u>	<u>SUM</u>	<u>MEAN</u>	<u>STD DEV</u>	<u>SUM OF SQ</u>	<u>CASES</u>
<\$20,000	13	.1008	.4561	27.6899	129
\$20,000-39,000.99	56	.1609	.8804	268.9885	348
\$40,000-59,999.99	47	.3534	3.2197	1368.3910	133
\$60,000-79,999.99	0	.0000	.0000	.0000	32
\$80,000-	9	.3214	.7724	16.1071	28
	125	.1866	1.5900	1681.1765	670

Source	SUM OF SQUARES	D.F.	MEAN SQUARE	F	SIG
Between Groups	6.5026	4	1.6256	.6430	.6320
Within Groups	168.1765	665	2.5281		

ETA=.0621

ETA SQ=.0039

TABLE 70 (CONT.) CHAMPUS MEDICAL VISITS

Criterion Variable: CHAMPUS MEDICAL VISITS
 Broken Down By: SEX

<u>SEX GROUP</u>	<u>SUM</u>	<u>MEAN</u>	<u>STD DEV</u>	<u>SUM OF SQ</u>	<u>CASES</u>
Female	93	.2827	2.1404	1502.7112	329
Male	32	.0933	.7235	179.0146	343
	125	.1860	1.5843	1681.7258	672

Source	SUM OF SQUARES	D.F.	MEAN SQUARE	F	SIG
Between Groups	6.0227	1	6.0227	2.3994	.1219
Within Groups	168.7258	670	2.5100		
	ETA=0597	3TA	SQ=.0036		

TABLE 71 ANALYSIS OF VARIANCE CHAMPUS SURGICAL VISITS

Criterion Variable: CHAMPUS SURGICAL VISITS
Broken Down By: AGE

AGE_GROUP	SUM	MEAN	STD_DEV	SUM OF SQ	CASES
0-17 years	1	.0076	.0874	.9924	131
18-44 years	6	.0280	.2357	11.8318	214
45-64 years	28	.1393	1.2925	334.0995	201
65+ years	2	.0159	.1782	3.9683	126
Group Totals	37	.0551	.7428	350.8919	672

Source	SUM OF SQUARES	D.F.	MEAN SQUARE	F	SIG.
Between Groups	2.0709	3	.6903	1.3141	.2687
Within Groups	350.8919	668	.5253		

Criterion Variable: CHAMPUS SURGICAL VISITS
Broken Down By: INCOME

INCOME_GROUP	SUM	MEAN	STD_DEV	SUM_OF_SQ	CASES
\$<20,000	21	.1628	1.5900	323.5814	129
\$20,000-39,999.99	9	.0259	.1918	12.7672	348
\$40,000-59,999.99	7	.0526	.3329	14.6316	133
\$60,000-79,999.99	0	.0000	.0000	.0000	34
\$80,000-	0	.0000	.0000	.0000	28
	37	.0552	.7265	350.9802	670

SOURCE	SUM OF SQUARES	D.F.	MEAN SQUARE	F	SIG
BETWEEN GROUPS	1.9765	4	.4941	.9362	.4423
WITHIN GROUPS	350.9802	665	.5278		

ETA = .0748

ETA SQ = .0056

TABLE 71 (CONT.) CHAMPUS SURGICAL VISITS

Criterion Variable: CHAMPUS SURGICAL VISITS
 Broken Down by: SEX

<u>SEX GROUP</u>	<u>SUM</u>	<u>MEAN</u>	<u>STD DEV</u>	<u>SUM OF SQ</u>	<u>CASES</u>
Female	32	.0978	1.0254	344.8875	329
Male	5	.0146	.1423	6.9271	343
Within Groups Total	37	.0551	.7246	351.8147	672

<u>SOURCE</u>	<u>SUM OF</u> <u>SQUARES</u>	<u>D.F.</u>	<u>MEAN</u> <u>SQUARE</u>	<u>F</u>	<u>SIG</u>
Between Groups	1.1481	1	1.1481	2.1865	.1397
Within Groups	351.8147	670	.5251		

ETA=.0570

ETA SQUARED=.0033

TABLE 72 ANALYSIS OF VARIANCE CHAMPUS OB/GYN VISITS

Criterion Variable: CHAMPUS OB/GYN VISITS

Broken Down By: AGE

AGE GROUP	SUM	MEAN	STD DEV	SUM OF SQ	CASES
0-17 years	.00	.0000	.0000	.0000	131
18-44 years	2.00	.0093	.1367	3.9813	214
45-64 years	10.00	.0498	.3841	29.5025	201
65+ years	7.00	.0556	.6236	48.6111	126
	19.00	.0283	.3506	82.0949	672

SOURCE	SUM OF SQUARES	D.F.	MEAN SQUARE	F	SIG
Between Groups	.3679	3	.1226	.9978	.3933

Within Groups 82.0949 668 .1229

ETA=.0668

ETA SQUARED=.0045

Criterion Variable: CHAMPUS OB/GYN VISITS

Broken Down By: INCOME

INCOME GROUP	SUM	MEAN	STD DEV	SUM OF SQ	CASES
<\$20,000	.00	.0000	.0000	.0000	129
\$20,000-39,999.99	15.00	.0431	.4629	74.3534	348
\$40,000-59,999.99	2.00	.0150	.1734	3.9699	133
\$60,000-79,000.99	.00	.0000	.0000	.0000	32
\$80,000-	2.00	.0714	.3780	3.8571	28
	19.00	.0284	.3515	82.1805	670

SOURCE	SUM OF SQUARES	D.F.	MEAN SQUARE	F	SIG
Between Groups	.2807	4.00	.0702	.5678	.6861
Within Groups	82.1805	665.00	.1236		

ETA=.0583

ETA SQUARED=.0034

TABLE 72 (CONT.) ANALYSIS OF VARIANCE CHAMPUS OB/GYN VISITS

Criterion Variable: CHAMPUS OB/GYN VISITS
 Broken Down By: SEX

<u>SEX GROUP</u>	<u>SUM</u>	<u>MEAN</u>	<u>STD DEV</u>	<u>SUM OF SQ</u>	<u>CASES</u>
Female	19.00	.0578	.4997	81.9027	329
Male	.00	.0000	.0000	.0000	343
Within Groups Total	19.00	.0283	.3496	81.9027	672
<u>SOURCE</u>	<u>SUM OF</u>	<u>D.F.</u>	<u>MEAN</u>	<u>F</u>	<u>SIG</u>
	<u>SQUARES</u>		<u>SQUARE</u>		
Between Groups	.5601	1.00	.5601	4.5816	.0327
Within Groups	81.9027	670.00	.1222		
	ETA=.0824		ETA SQUARED=.0008		

TABLE 73 ANALYSIS OF VARIANCE CHAMPUS PSYCHIATRY VISITS

Criterion Variable: CHAMPUS PSYCHIATRY VISITS

Broken Down By: AGE

AGE GROUP	SUM	MEAN	STD DEV	SUM OF WQ	CASES
0-17 years	87.00	.6641	4.6947	2865.2214	131
18-44 years	57.00	.2664	2.0848	925.8178	214
45-64 years	3.00	.0149	.2116	8.9552	201
65+ years	.00	.0000	.0000	.0000	126

Within Groups	147.00	.2188	2.3851	3799.9944	672
Total					

SOURCE	SUM OF SQUARES	D.F.	MEAN SQUARE	F	SIG
Between Groups	40.8494	3	13.6165	2.3936	.0673
Within Groups	3799.9944	668	5.6886		

ETA=.1031

ETA SQUARED=.0106

Criterion Variable: CHAMPUS PSYCHIATRY VISITS

Broken Down By: INCOME

INCOME GROUP	SUM	MEAN	STD DEV	SUM OF SQ	CASES
<\$20,000	2.00	.0155	.1240	1.9690	129
\$20,000-39,999.99	109.00	.3132	3.1563	3456.8592	348
\$40,000-59,999.99	36.00	.2707	1.6748	370.2556	133
\$60,000-79,999.99	.00	.0000	.0000	.0000	32
\$80,000-	.00	.0000	.0000	.0000	28

Within Groups					
Total	147.00	.2194	2.3996	3829.0838	670

SOURCE	SUM OF SQUARES	D.F.	MEAN SQUARE	F	SIG
Between Groups	11.6639	4	2.9160	.5064	.7310
Within Groups	3829.0838	665	5.7580		

ETA=.0551

ETA SQUARED=.0030

TABLE 73 (CONT.) ANALYSIS OF VARIANCE CHAMPUS PSYCHIATRY VISITS

Criterion Variable: CHAMPUS PSYCHIATRY VISITS
 Broken Down By: SEX

<u>SEX GROUP</u>	<u>SUM</u>	<u>MEAN</u>	<u>STD DEV</u>	<u>SUM OF SQ</u>	<u>CASES</u>
Female	106	.3222	3.2280	3417.8480	329
Male	41	.1195	1.1030	416.0991	343
Within Groups					
Total	147	.2188	2.3921	3833.9471	672
<u>SOURCE</u>	<u>SQUARES</u>	<u>D.F.</u>	<u>SQUARE</u>	<u>F</u>	<u>SIG</u>
Between Groups	6.8966	1	6.8966	1.2052	.2727
Within Groups	3833.9471	670	5.7223		
ETA=.0424			ETA SQUARED=.0018		

TABLE 74 ANALYSIS OF VARIANCE CHAMPUS PEDIATRIC VISITS

Criterion Variable: CHAMPUS PEDIATRIC VISITS
Broken Down By: AGE

AGE GROUP	SUM	MEAN	STD DEV	SUM OF SQ	CASES
0-17 years	15.00	.1145	.5770	43.2824	131
18-44 years	.00	.0000	.0000	.0000	214
45-64 years	.00	.0000	.0000	.0000	701
65- years	.00	.0000	.0000	.0000	126
Within Groups					
Total	15.00	.0223	.2545	43.2824	672

SOURCE	SUM OF SQUARES	D.F.	MEAN SQUARE	F	SIG
Between Groups	1.3827	3	.4609	7.1135	.0001
Within Groups	43.2824	668	.0648		

ETA=1759

ETA SQUARED=.0310

Criterion Variable: CHAMPUS PEDIATRIC VISITS
Broken Down By: INCOME

INCOME GROUP	SUM	MEAN	STD DEV	SUM OF SQ	CASES
<\$20,000	8.00	.0620	.4961	31.5039	129
\$20,000-39,999.99	5.00	.0144	.1604	8.9282	348
\$40,000-59,999.99	.00	.0000	.0000	.0000	133
\$60,000-79,999.99	.00	.0000	.0000	.0000	32
\$80,000-	2.00	.0714	.3780	3.8571	28
Within Groups					
Total	15.00	.0224	.2581	44.2892	670

SOURCE	SUM OF SQUARES	D.F.	MEAN SQUARE	F	SIG
Between Groups	.3750	4	.0937	1.4076	.2298
Within Groups	44.2892	665	.0666		

ETA=.0916

ETA SQUARED=.0084

TABLE 74 (CONT.) CHAMPUS PEDIATRIC VISITS

Criterion Variable: CHAMPUS PEDIATRIC VISITS
 Broken Down By: SEX

<u>SEX GROUP</u>	<u>SUM</u>	<u>MEAN</u>	<u>STD DEV</u>	<u>SUM OF SQ</u>	<u>CASES</u>
Female	4.00	.0122	.1557	7.9514	329
Male	11.00	.0321	.3273	36.6472	343
Within Groups					
Total	15.00	.0223	.2580	44.5986	672

<u>SOURCE</u>	<u>SUM OF</u> <u>SQUARES</u>	<u>D.F.</u>	<u>MEAN</u> <u>SQUARE</u>	<u>F</u>	<u>SIG</u>
Between Groups	.0666	1	.0666	1.0002	.3176
Within Groups	44.5986	670	.0666		

ETA= .0386

ETA SQUARED= .0015

TABLE 75 ANALYSIS OF VARIANCE CHAMPUS ORTHOPEDIC VISITS

Criterion Variable: CHAMPUS ORTHOPEDIC VISITS

Broken Down By: AGE

<u>AGE GROUP</u>	<u>SUM</u>	<u>MEAN</u>	<u>STD DEV</u>	<u>SUM OF SQ</u>	<u>CASES</u>
0-17 years	9.00	.0687	.7037	64.3817	131
18-44 years	3.00	.0140	.2051	8.9579	214
45-64 years	5.00	.0249	.3527	24.8756	201
65- years	7.00	.0556	.6236	48.6111	126
Within Groups					
Total	24.00	.0357	.4688	146.8264	672

<u>SOURCE</u>	<u>SUM OF SQUARES</u>	<u>D.F.</u>	<u>MEAN SQUARE</u>	<u>F</u>	<u>SIG</u>
Between Groups	.3165	3	.1055	.4800	.6963
Within Groups	146.8264	668	.2198		

ETA=.0464

ETA SQUARED=.0022

Criterion Variable: CHAMPUS ORTHOPEDICS VISITS

Broken Down By: INCOME

<u>INCOME GROUP</u>	<u>SUM</u>	<u>MEAN</u>	<u>STD DEV</u>	<u>SUM OF SQ</u>	<u>CASES</u>
<\$20,000	.00	.0000	.0000	.0000	129
\$20,000-39,999.99	19.00	.0546	.5929	121.9626	348
\$40,000-59,999.99	5.00	.0376	.4336	24.8120	133
\$60,000-79,000.99	.00	.0000	.0000	.0000	32
Within Groups					
Total	24.00	.0358	.4698	146.7747	670

<u>SOURCE</u>	<u>SUM OF SQUARES</u>	<u>D.F.</u>	<u>MEAN SQUARE</u>	<u>F</u>	<u>SIG</u>
Between Groups	.3656	4	.0914	.4141	.7985
Within Groups	146.7747	665	.2207		

ETA=.0498

ETA SQUARED=.0025

TABLE 75 (CONT.) ANALYSIS OF VARIANCE CHAMPUS ORTHOPEDICS VISITS

Criterion Variable: CHAMPUS ORTHOPEDICS VISITS
 Broken Down By: SEX

<u>SEX GROUP</u>	<u>SUM</u>	<u>MEAN</u>	<u>STD DEV</u>	<u>SUM OF SQ</u>	<u>CASES</u>
Female	9.00	.0274	.3255	34.7538	329
Male	15.00	.0437	.5731	112.3440	343
Within Groups					
Total	24.00	.0357	.4686	147.0978	672

<u>SOURCE</u>	<u>SUM OF</u>	<u>MEAN</u>			
	<u>SQUARES</u>	<u>D.F.</u>	<u>SQUARE</u>	<u>F</u>	<u>SIG</u>
Between Groups	.0450	1	.0450	.2051	.6508
Within Groups	147.0978	670	.2195		

ETA= .0175	ETA SQUARED= .0003
------------	--------------------

TABLE 76 ANALYSIS OF VARIANCE JMMC MTFS MEDICAL VISITS

Criterion Variable: JMMC MTFS MEDICAL VISITS
Broken Down By: AGE

<u>AGE GROUPS</u>	<u>SUM</u>	<u>MEAN</u>	<u>STD DEV</u>	<u>SUM OF SQ</u>	<u>CASES</u>
0-17 years	265	2.0229	2.5129	820.9313	131
18-44 years	954	4.4579	7.2082	11067.1215	214
45-64 years	1356	6.7463	11.9315	28472.0597	201
65- years	1067	8.4683	9.2396	10671.3730	126
Within Groups					
Total	3642	5.4196	8.7404	51031.4855	672

<u>SOURCE</u>	<u>SUM OF</u>	<u>D.F.</u>	<u>MEAN</u>	<u>F</u>	<u>SIG</u>
	<u>SQUARES</u>		<u>SQUARE</u>		
Between Groups	3234.1752	3	1078.0584	14.1117	.0000
Within Groups	51031.4855	668	76.3944		

ETA=.2441

ETA SQUARED=.0596

Criterion Variable: JMMC MTFS MEDICAL VISITS
Broken Down By: INCOME

<u>INCOME GROUP</u>	<u>SUM</u>	<u>MEAN</u>	<u>STD DEV</u>	<u>SUM OF SQ</u>	<u>CASES</u>
<\$20,000	899	6.9690	9.2322	10909.8760	129
\$20,000-39,999.99	1932	5.5517	9.5667	31758.0690	348
\$40,000-59,999.99	594	4.4662	7.8957	8229.0977	133
\$60,000-79,999.99	121	3.7813	7.5508	53588.6186	32
\$80,000	93	3.3214	5.8503	924.1071	28
Within Groups					
Total	3639	5.4313	8.9769	53588.6186	670

<u>SOURCE</u>	<u>SUM OF</u>	<u>D.F.</u>	<u>MEAN</u>	<u>F</u>	<u>SIG</u>
	<u>SQUARES</u>		<u>SQUARE</u>		
Between Groups	645.7232	4	161.4308	2.0033	.0924
Within Groups	53588.6286	665	80.5844		

ETA=.1091

ETA SQUARED=.0119

TABLE 76 (CONT.) ANALYSIS OF VARIANCE JMMC MTFS MEDICAL VISITS

Criterion Variable: JMMC MTFS MEDICAL VISITS

Broken Down By: SEX

<u>SEX GROUP</u>	<u>SUM</u>	<u>MEAN</u>	<u>STD DEV</u>	<u>SUM OF SQ</u>	<u>CASES</u>
Female	1881	5.7173	9.4689	29408.7112	329
Male	1761	5.1341	8.5155	24799.8309	343
Within Groups Total	3642	5.4196	8.9949	54208.5421	672

<u>SOURCE</u>	<u>SUM OF SQUARES</u>	<u>D.F.</u>	<u>MEAN SQUARE</u>	<u>F</u>	<u>SIG.</u>
Between Groups	57.1186	1	57.1186	.7060	.4011
Within Groups	54208.5421	670	80.9083		

ETA = .0324 ETA SQUARED = .0011

TABLE 77 ANALYSIS OF VARIANCE JMMC MTFS SURGICAL VISITS

Criterion Variable: JMMC MTFS SURGICAL VISITS
 Broken Down By: AGE

AGE GROUPS	SUM	MEAN	STD DEV	SUM OF SQ	CASES
0-17 years	61	.4656	1.0099	132.5954	131
18-44 years	167	.7804	1.3681	398.6776	214
45-64 years	206	1.0249	1.8932	716.8756	201
65- years	205	1.6270	2.4355	741.4683	126
Within Groups					
Total	639	.9509	1.7258	1989.6169	672

SOURCE	SUM OF SQUARES	D.F.	MEAN SQUARE	F	SIG
Between Groups	95.7626	3	31.9209	10.7172	.0000
Within Groups	1989.6169	668	2.9785		

ETA= .2143 ETA SQUARED= .0459

Criterion Variable: JMMC MTFS SURGICAL VISITS
 Broken Down By: INCOME

INCOME GROUP	SUM	MEAN	STD DEV	SUM OF SQ	CASES
<\$20,000	161	1.2481	2.2501	648.0620	129
\$20,000-39,999.99	319	.9167	1.7150	1020.5833	348
\$40,000-59,999.99	103	.7744	1.3630	245.2331	133
\$60,000-79,999.99	33	1.0313	1.4477	64.9688	32
\$80,000	18	.6429	1.7473	82.4286	28
Within Groups					
Total	634	.9463	1.7606	2061.2758	670

SOURCE	SUM OF SQUARES	D.F.	MEAN SQUARE	F	SIG
Between Groups	18.7899	4	4.6975	1.5155	.1959
Within Groups	2061.2758	665	3.0997		

ETA= .0950 ETA SQUARED= .0090

TABLE 77 (CONT.) JMMC MTFS SURGICAL VISITS

Criterion Variable: JMMC MTFS SURGICAL VISITS
 Broken Down By: SEX

<u>SEX GROUP</u>	<u>SUM</u>	<u>MEAN</u>	<u>STD DEV</u>	<u>SUM OF SQ</u>	<u>CASES</u>
Female	297	.9027	1.7258	976.8875	329
Male	342	.9971	1.7991	1106.9971	343
Within Groups Total	639	.9509	1.7636	2083.8846	672

<u>SOURCE</u>	<u>SUM OF SQUARES</u>	<u>D.F.</u>	<u>MEAN SQUARE</u>	<u>F</u>	<u>SIG.</u>
Between Groups	1.4948	1	1.4948	.4806	.4884
Within Groups	2083.8846	670	3.1103		

ETA = .0268 ETA SQUARED = .0007

TABLE 78 ANALYSIS OF VARIANCE JMMC MTFS OB/GYN VISITS

Criterion Variable: JMMC MTFS OB/GYN VISITS
 Broken Down By: AGE

AGE GROUPS	SUM	MEAN	STD DEV	SUM OF SQ	CASES
0-17 years	9	.0687	.3550	16.3817	131
18-44 years	226	1.0561	3.1409	2101.3271	214
45-64 years	80	.3980	.8190	134.1592	201
65- years	56	.4444	1.1493	165.1111	126
Within Groups					
Total	371	.5521	1.9022	2416.9791	672

SOURCE	SUM OF SQUARES	D.F.	MEAN SQUARE	F	SIG
Between Groups	91.1980	3	30.3993	8.4017	.0000
Within Groups	2416.9791	668	3.6182		

ETA= .1907

ETA SQUARED= .0364

Criterion Variable: JMMC MTFS OB/GYN VISITS
 Broken Down By: INCOME

INCOME GROUP	SUM	MEAN	STD DEV	SUM OF SQ	CASES
<\$20,000	81	.6279	1.9408	482.1395	129
\$20,000-39,999.99	226	.6494	2.3234	1873.2299	348
\$40,000-59,999.99	46	.3459	.8620	98.0902	133
\$60,000-79,999.99	14	.4375	1.0758	35.8750	32
\$80,000	3	.1071	.3150	2.6786	28
Within Groups					
Total	370	.5522	1.9358	2492.0132	670

SOURCE	SUM OF SQUARES	D.F.	MEAN SQUARE	F	SIG
Between Groups	15.6584	4	3.9146	1.0446	.3833
Within Groups	2492.0132	665	3.7474		

ETA= .0790

ETA SQUARED= .0062

TABLE 78 (CONT.) ANALYSIS OF VARIANCE JMMC MTFS OB/GYN VISITS

Criterion Variable: JMMC MTFS OB/GYN VISITS

Broken Down By: SEX

<u>SEX GROUP</u>	<u>SUM</u>	<u>MEAN</u>	<u>STD DEV</u>	<u>SUM OF SQ</u>	<u>CASES</u>
Female	339	1.0304	2.5241	2089.6960	329
Male	32	.0933	.8902	271.0146	343
Within Groups Total	371	.5521	1.8771	2360.7106	672

<u>SOURCE</u>	<u>SUM OF SQUARES</u>	<u>D.F.</u>	<u>MEAN SQUARE</u>	<u>F</u>	<u>SIG.</u>
Between Groups	147.4665	1	147.4665	41.8529	.0000
Within Groups	2360.7106	670	3.5234		

ETA = .2425 ETA SQUARED = .0588

TABLE 79 ANALYSIS OF VARIANCE JMMC MTFS PSYCHIATRY VISITS

Criterion Variable: JMMC MTFS PSYCHIATRY VISITS
 Broken Down By: AGE

AGE GROUPS	SUM	MEAN	STD DEV	SUM OF SQ	CASES
0-17 years	40	.3053	2.4617	787.7863	131
18-44 years	30	.1402	1.0521	235.7944	214
45-64 years	0	.0000	.0000	.0000	201
65- years	0	.0000	.0000	.0000	126
Within Groups					
Total	70	.1042	1.2379	1023.5807	672

SOURCE	SUM OF SQUARES	D.F.	MEAN SQUARE	F	SIG
Between Groups	9.1277	3	3.0426	1.9856	.1148
Within Groups	1023.5807	668	1.5323		

ETA= .0940 ETA SQUARED= .0088

Criterion Variable: JMMC MTFS PSYCHIATRY VISITS
 Broken Down By: INCOME

INCOME GROUP	SUM	MEAN	STD DEV	SUM OF SQ	CASES
<\$20,000	42	.3256	2.4817	788.3256	129
\$20,000-39,999.99	27	.0776	.8228	234.9052	348
\$40,000-59,999.99	1	.0075	.0867	.9925	133
\$60,000-79,999.99	0	.0000	.0000	.0000	32
\$80,000	0	.0000	.0000	.0000	28
Within Groups					
Total	70	.1045	1.2410	1024.2232	670

SOURCE	SUM OF SQUARES	D.F.	MEAN SQUARE	F	SIG
Between Groups	8.4633	4	2.1158	1.3738	.2414
Within Groups	1024.2232	665	1.5402		

ETA= .0905 ETA SQUARED= .0082

TABLE 79 (CONT.) JMMC MTFS PSYCHIATRY VISITS

Criterion Variable: JMMC MTFS PSYCHIATRY VISITS
 Broken Down By: SEX

<u>SEX GROUP</u>	<u>SUM</u>	<u>MEAN</u>	<u>STD DEV</u>	<u>SUM OF SQ</u>	<u>CASES</u>
Female	29	.0881	1.1535	436.4438	329
Male	41	.1195	1.3202	596.0991	343
Within Groups Total	70	.1042	1.2414	1032.5429	672

<u>SOURCE</u>	<u>SUM OF SQUARES</u>	<u>D.F.</u>	<u>MEAN SQUARE</u>	<u>F</u>	<u>SIG.</u>
Between Groups	.1654	1	.1654	.1074	.7433
Within Groups	1032.5429	670	1.5411		

ETA = .0127 ETA SQUARED = .0002

TABLE 80 ANALYSIS OF VARIANCE JMMC MTFS PEDIATRIC VISITS

Criterion Variable: JMMC MTFS PEDIATRIC VISITS

Broken Down By: AGE

AGE GROUPS	SUM	MEAN	STD DEV	SUM OF SQ	CASES
0-17 years	240	1.8321	3.0411	1202.3053	131
18-44 years	13	.0607	.3889	32.2103	214
45-64 years	0	.0000	.0000	.0000	201
65- years	0	.0000	.0000	.0000	126
Within Groups					
Total	253	.3765	1.3594	1234.5156	672

SOURCE	SUM OF SQUARES	D.F.	MEAN SQUARE	F	SIG
Between Groups	345.2329	3	115.0776	62.2688	.0000
Within Groups	1234.5156	668	1.8481		

ETA= .4675

ETA SQUARED= .2185

Criterion Variable: JMMC MTFS PEDIATRICS VISITS

Broken Down By: INCOME

INCOME GROUP	SUM	MEAN	STD DEV	SUM OF SQ	CASES
<\$20,000	60	.4651	2.1903	614.0930	129
\$20,000-39,999.99	152	.4368	1.4834	763.6092	348
\$40,000-59,999.99	40	.3008	1.1997	189.9699	133
\$60,000-79,999.99	0	.0000	.0000	.0000	32
\$80,000	1	.0357	.1890	.9643	28
Within Groups					
Total	253	.3776	1.5359	1568.6364	670

SOURCE	SUM OF SQUARES	D.F.	MEAN SQUARE	F	SIG
Between Groups	10.8277	4	2.7069	1.1476	.3330
Within Groups	1568	665	2.3589		

ETA= .0828

ETA SQUARED= .0069

TABLE 80 (CONT.) JMMC MTFS PEDIATRIC VISITS

Criterion Variable: JMMC MTFS PEDIATRIC VISITS

Broken Down By: SEX

<u>SEX GROUP</u>	<u>SUM</u>	<u>MEAN</u>	<u>STD DEV</u>	<u>SUM OF SQ</u>	<u>CASES</u>
Female	133	.4043	1.6521	895.2340	329
Male	120	.3499	1.4142	684.0175	343
Within Groups Total	253	.3765	1.5353	1579.2515	672

<u>SOURCE</u>	<u>SUM OF SQUARES</u>	<u>D.F.</u>	<u>MEAN SQUARE</u>	<u>F</u>	<u>SIG.</u>
Between Groups	.4970	1	.4970	.2108	.6463
Within Groups	1579.2515	670	2.3571		

ETA = .0177

ETA SQUARED = .0003

TABLE 81 ANALYSIS OF VARIANCE JMMC MTFS ORTHOPEDICS VISITS

Criterion Variable: JMMC MTFS ORTHOPEDICS VISITS

Broken Down By: AGE

AGE GROUPS	SUM	MEAN	STD DEV	SUM OF SQ	CASES
0-17 years	14	.1069	.8157	86.5038	131
18-44 years	47	.2196	1.0407	230.6776	214
45-64 years	54	.2687	1.2319	303.4925	201
65- years	57	.4524	1.3060	213.2143	126
Within Groups					
Total	172	.2560	1.1173	833.8882	672

SOURCE	SUM OF SQUARES	D.F.	MEAN SQUARE	F	SIG
Between Groups	8.0880	3	2.6960	2.1597	.0916
Within Groups	833.8882	668	1.2483		

ETA=.0980

ETA SQUARED=.0096

Criterion Variable: JMMC MTFS ORTHOPEDIC VISITS

Broken Down By: INCOME

INCOME GROUP	SUM	MEAN	STD DEV	SUM OF SQ	CASES
<\$20,000	39	.3023	1.1361	165.2093	129
\$20,000-39,999.99	84	.2414	1.1206	435.7241	348
\$40,000-59,999.99	36	.2707	1.1357	170.2556	133
\$60,000-79,999.99	0	.0000	.0000	.0000	32
\$80,000	13	.4643	1.5749	66.9643	28
Within Groups					
Total	172	.2567	1.1227	838.1534	670

SOURCE	SUM OF SQUARES	D.F.	MEAN SQUARE	F	SIG
Between Groups	3.6914	4	.9229	.7322	.5702
Within Groups	838.1534	665	1.2604		

ETA=.0662

ETA SQUARED=.0044

TABLE 81 (CONT.) JMMC MTFs ORTHOPEDIC VISITS

Criterion Variable: JMMC MTFs Orthopedic Visits
 Broken Down By: SEX

<u>SEX GROUP</u>	<u>SUM</u>	<u>MEAN</u>	<u>STD DEV</u>	<u>SUM OF SQ</u>	<u>CASES</u>
Female	86	.2614	1.1336	421.5198	329
Male	86	.2507	1.1088	420.4373	343
Within Groups Total	172	.2560	1.1210	841.9571	672

<u>SOURCE</u>	<u>SUM OF SQUARES</u>	<u>D.F.</u>	<u>MEAN SQUARE</u>	<u>F</u>	<u>SIG.</u>
Between Groups	.0191	1	.0191	.0152	.9019
Within Groups	841.9571	670	1.2567		

ETA = .0048 ETA SQUARED = .0000

TABLE 82 ANALYSIS OF VARIANCE GHOST MEDICAL VISITS

Criterion Variable: _GHOST MEDICAL VISITS

Broken Down By: AGE

AGE GROUPS	SUM	MEAN	STD DEV	SUM OF SQ	CASES
0-17 years	101	.7710	4.9932	3241.1298	131
18-44 years	87	.4965	1.9616	819.6308	214
45-64 years	234	1.1642	3.8194	2917.5821	201
65- years	185	1.4683	4.8641	2957.3730	126
Within Groups					
Total	607	.9033	3.8567	9935.7157	672

SOURCE	SUM OF SQUARES	D.F.	MEAN SQUARE	F	SIG
Between Groups	108.9971	3	36.3324	2.4427	.0631
Within Groups	9935.7157	668	14.8738		

ETA=.1042

ETA SQUARED=.0109

Criterion Variable: GHOST MEDICAL VISITS

Broken Down By: INCOME

INCOME GROUP	SUM	MEAN	STD DEV	SUM OF SQ	CASES
<\$20,000	178	1.3798	5.9282	4498.3876	129
\$20,000-39,999.99	152	.4368	1.5481	831.6092	348
\$40,000-59,999.99	125	.9398	3.7935	1899.5188	133
\$60,000-79,999.99	60	1.8750	2.4062	179.5000	32
\$80,000	92	3.2857	9.3089	2339.7143	28
Within Groups					
Total	607	.9060	3.8288	9748.7299	670

SOURCE	SUM OF SQUARES	D.F.	MEAN SQUARE	F	SIG
Between Groups	294.3462	4	73.5866	5.0196	.0005
Within Groups	9748.7299	665	14.6597		

ETA=.1712

ETA SQUARED=.0293

TABLE 82 (CONT.) GHOST MEDICAL VISITS

Criterion Variable: GHOST MEDICAL VISITS
 Broken Down By: SEX

<u>SEX GROUP</u>	<u>SUM</u>	<u>MEAN</u>	<u>STD DEV</u>	<u>SUM OF SQ</u>	<u>CASES</u>
Female	425	1.2918	5.1122	8571.9878	329
Male	182	.5306	2.0054	1375.4286	343
Within Groups Total	607	.9033	3.8532	9947.4164	329

<u>SOURCE</u>	<u>SUM OF SQUARES</u>	<u>D.F.</u>	<u>MEAN SQUARE</u>	<u>F</u>	<u>SIG.</u>
Between Groups	97.2964	1	97.2964	6.5533	.0107
Within Groups	9947.4164	670	14.8469		

ETA = .0984 ETA SQUARED = .0097

TABLE 83 ANALYSIS OF VARIANCE GHOST SURGICAL VISITS

Criterion Variable: GHOST SURGICAL VISITS

Broken Down By: AGE

<u>AGE GROUPS</u>	<u>SUM</u>	<u>MEAN</u>	<u>STD DEV</u>	<u>SUM OF SQ</u>	<u>CASES</u>
0-17 years	10	.0763	.6399	53.2366	131
18-44 years	7	.0327	.2029	8.7710	214
45-64 years	42	.2090	.6827	93.2239	201
65- years	52	.4127	1.0827	146.5397	126
Within Groups					
Total	111	.1652	.6721	301.7712	672

<u>SOURCE</u>	<u>SUM OF SQUARES</u>	<u>D.F.</u>	<u>MEAN SQUARE</u>	<u>F</u>	<u>SIG</u>
Between Groups	12.8939	3	4.2980	9.5140	.0000
Within Groups	301.7712	668	.4518		

ETA=.2024

ETA SQUARED=.0410

Criterion Variable: GHOST SURGICAL VISITS

Broken Down By: INCOME

<u>INCOME GROUP</u>	<u>SUM</u>	<u>MEAN</u>	<u>STD DEV</u>	<u>SUM OF SQ</u>	<u>CASES</u>
<\$20,000	8	.0620	.3480	15.5039	129
\$20,000-39,999.99	37	.1063	.6193	133.0661	348
\$40,000-59,999.99	37	.2782	.9720	124.7068	133
\$60,000-79,999.99	19	.5938	.8370	21.7188	32
\$80,000	10	.3571	.5587	8.4286	28
Within Groups					
Total	111	.1657	.6755	303.4241	670

<u>SOURCE</u>	<u>SUM OF SQUARES</u>	<u>D.F.</u>	<u>MEAN SQUARE</u>	<u>F</u>	<u>SIG</u>
Between Groups	11.1864	4	2.7966	6.1292	.0001
Within Groups	303.4241	665	.4563		

ETA= .1886

ETA SQUARED= .0356

TABLE 83 (CONT.) GHOST SURGICAL VISITS

Criterion Variable: GHOST SURGICAL VISITS
 Broken Down By: SEX

<u>SEX GROUP</u>	<u>SUM</u>	<u>MEAN</u>	<u>STD DEV</u>	<u>SUM OF SQ</u>	<u>CASES</u>
Female	60	.1824	.7179	169.0578	329
Male	51	.1487	.6521	145.4169	343
Within Groups Total	111	.1652	.6851	314.4747	672

<u>SOURCE</u>	<u>SUM OF SQUARES</u>	<u>D.F.</u>	<u>MEAN SQUARE</u>	<u>F</u>	<u>SIG.</u>
Between Groups	.1905	1	.1905	.4059	.5243
Within Groups	314.4747	670	.4694		

ETA = .0246 ETA SQUARED = .0006

TABLE 84 ANALYSIS OF VARIANCE OB/GYN VISITS

Criterion Variable: GHOST OB/GYN VISITS

Broken Down By: AGE

AGE GROUPS	SUM	MEAN	STD DEV	SUM OF SQ	CASES
0-17 years	0	.0000	.0000	.0000	131
18-44 years	12	.0561	.5188	57.3271	214
45-64 years	12	.0597	.3105	19.2836	201
65- years	8	.0635	.3285	13.4921	126
Within Groups					
Total	32	.0476	.3673	90.1027	672

SOURCE	SUM OF SQUARES	D.F.	MEAN SQUARE	F	SIG
Between Groups	.3734	3	.1245	.9229	.4293
Within Groups	90.1027	668	.1349		

ETA= .0642

ETA SQUARED= .0041

Criterion Variable: GHOST OB/GYN VISITS

Broken Down By: INCOME

INCOME GROUP	SUM	MEAN	STD DEV	SUM OF SQ	CASES
<\$20,000	6	.0465	.3274	13.7209	129
\$20,000-39,999.99	8	.0230	.1845	11.8161	348
\$40,000-59,999.99	7	.0526	.2838	10.6316	133
\$60,000-79,999.99	11	.3438	1.2854	51.2188	32
\$80,000	0	.0000	.0000	.0000	28
Within Groups					
Total	32	.0478	.3625	87.3874	670

SOURCE	SUM OF SQUARES	D.F.	MEAN SQUARE	F	SIG
Between Groups	3.0843	4	.7711	5.8677	.0001
Within Groups	87.3874	665	.1314		

ETA= .1846

ETA SQUARED= .0341

TABLE 84 ANALYSIS OF VARIANCE GHOST OB/GYN VISITS

Criterion Variable: GHOST OB/GYN VISITS

Broken Down By: SEX

<u>SEX GROUP</u>	<u>SUM</u>	<u>MEAN</u>	<u>STD DEV</u>	<u>SUM OF SQ</u>	<u>CASES</u>
Female	32	.0973	.5206	88.8875	329
Male	0	.0000	.0000	.0000	343
Within Groups Total	32	.0476	.3642	88.8875	672

<u>SOURCE</u>	<u>SUM OF SQUARES</u>	<u>D.F.</u>	<u>MEAN SQUARE</u>	<u>F</u>	<u>SIG.</u>
Between Groups	1.5887	1	1.5887	11.9747	.0006
Within Groups	88.8875	670	.1327		

ETA = .1325 ETA SQUARED = .0176

TABLE 85 ANALYSIS OF VARIANCE GHOST PSYCHIATRY VISITS

Criterion Variable: GHOST PSYCHIATRY VISITS

Broken Down By: AGE

<u>AGE GROUPS</u>	<u>SUM</u>	<u>MEAN</u>	<u>STD DEV</u>	<u>SUM OF SQ</u>	<u>CASES</u>
0-17 years	3	.0229	.1948	4.9313	131
18-44 years	3	.0140	.1178	2.9579	214
45-64 years	2	.0100	.1411	3.9801	201
65- years	0	.0000	.0000	.0000	126
Within Groups					
Total	8	.0119	.1333	11.8693	672

<u>SOURCE</u>	<u>SUM OF SQUARES</u>	<u>D.F.</u>	<u>MEAN SQUARE</u>	<u>F</u>	<u>SIG</u>
Between Groups	.0354	3	.0118	.6645	.5741
Within Groups	11.8693	668	.0178		

ETA= .0545

ETA SQUARED= .0030

Criterion Variable: GHOST PSYCHIATRY VISITS

Broken Down By: INCOME

<u>INCOME GROUP</u>	<u>SUM</u>	<u>MEAN</u>	<u>STD DEV</u>	<u>SUM OF SQ</u>	<u>CASES</u>
<\$20,000	2	.0155	.1240	1.9690	129
\$20,000-39,999.99	4	.0115	.1310	5.9540	348
\$40,000-59,999.99	0	.0000	.0000	.0000	133
\$60,000-79,999.99	2	.0625	.3536	3.8750	32
\$80,000	0	.0000	.0000	.0000	28
Within Groups					
Total	8	.0119	.1332	11.7980	670

<u>SOURCE</u>	<u>SUM OF SQUARES</u>	<u>D.F.</u>	<u>MEAN SQUARE</u>	<u>F</u>	<u>SIG</u>
Between Groups	.1065	4	.0266	1.5002	.2004
Within Groups	11.7980	665	.0177		

ETA= .0946

ETA SQUARED= .0089

TABLE 85 (CONT.) GHOST PSYCHIATRY VISITS

Criterion Variable: GHOST PSYCHIATRY VISITS
 Broken Down By: SEX

<u>SEX GROUP</u>	<u>SUM</u>	<u>MEAN</u>	<u>STD DEV</u>	<u>SUM OF SQ</u>	<u>CASES</u>
Female	7	.0213	.1819	10.8511	329
Male	1	.0029	.0540	.9971	343
Within Groups Total	8	.0119	.1330	11.8481	672

<u>SOURCE</u>	<u>SUM OF SQUARES</u>	<u>D.F.</u>	<u>MEAN SQUARE</u>	<u>F</u>	<u>SIG.</u>
Between Groups	.0566	1	.0566	3.2014	.0740
Within Groups	11.8481	670	.0177		

ETA = .0690 ETA SQUARED = .0048

TABLE 86 ANALYSIS OF VARIANCE GHOST PEDIATRIC VISITS

Criterion Variable: GHOST PEDIATRIC VISITS

Broken Down By: AGE

<u>AGE GROUPS</u>	<u>SUM</u>	<u>MEAN</u>	<u>STD DEV</u>	<u>SUM OF SQ</u>	<u>CASES</u>
0-17 years	0	.0000	.0000	.0000	131
18-44 years	0	.0000	.0000	.0000	214
45-64 years	0	.0000	.0000	.0000	201
65- years	0	.0000	.0000	.0000	126
Within Groups					
Total	0	.0000	.0000	.0000	672

<u>SOURCE</u>	<u>SUM OF SQUARES</u>	<u>D.F.</u>	<u>MEAN SQUARE</u>	<u>F</u>	<u>SIG</u>
Between Groups					
Within Groups					

ETA=

ETA SQUARED=

Criterion Variable: GHOST PEDIATRIC VISITS

Broken Down By: INCOME

<u>INCOME GROUP</u>	<u>SUM</u>	<u>MEAN</u>	<u>STD DEV</u>	<u>SUM OF SQ</u>	<u>CASES</u>
<\$20,000	0	.0000	.0000	.0000	129
\$20,000-39,999.99	0	.0000	.0000	.0000	348
\$40,000-59,999.99	0	.0000	.0000	.0000	133
\$60,000-79,999.99	0	.0000	.0000	.0000	32
\$80,000	0	.0000	.0000	.0000	28
Within Groups					
Total	0	.0000	.0000	.0000	670

<u>SOURCE</u>	<u>SUM OF SQUARES</u>	<u>D.F.</u>	<u>MEAN SQUARE</u>	<u>F</u>	<u>SIG</u>
Between Groups					
Within Groups					

ETA=

ETA SQUARED=

TABLE 86 (CONT.) GHOST PEDIATRIC VISITS

Criterion Variable: GHOST PEDIATRIC VISITS
 Broken Down By: SEX

<u>SEX GROUP</u>	<u>SUM</u>	<u>MEAN</u>	<u>STD DEV</u>	<u>SUM OF SQ</u>	<u>CASES</u>
Female	0	.0000	.0000	.0000	329
Male	0	.0000	.0000	.0000	343
Within Groups Total	0	.0000	.0000	.0000	672

<u>SOURCE</u>	<u>SUM OF SQUARES</u>	<u>D.F.</u>	<u>MEAN SQUARE</u>	<u>F</u>	<u>SIG.</u>
Between Groups					
Within Groups					

ETA =

ETA SQUARED =

TABLE 87 ANALYSIS OF VARIANCE GHOST ORTHOPEDIC VISITS

Criterion Variable: GHOST ORTHOPEDIC VISITS

Broken Down By: AGE

AGE GROUPS	SUM	MEAN	STD DEV	SUM OF SQ	CASES
0-17 years	0	.0000	.0000	.0000	131
18-44 years	1	.0047	.0684	.9953	214
45-64 years	17	.0846	.5898	69.5622	201
65- years	30	.2381	.9833	120.8571	126
Within Groups					
Total	48	.0714	.5353	191.4147	672

SOURCE	SUM OF SQUARES	D.F.	MEAN SQUARE	F	SIG
Between Groups	5.1568	3	1.7189	5.9987	.0005
Within Groups	191.4147	668	.2865		

ETA= .1620

ETA SQUARED= .0262

Criterion Variable: GHOST ORTHOPEDIC VISITS

Broken Down By: INCOME

INCOME GROUP	SUM	MEAN	STD DEV	SUM OF SQ	CASES
<\$20,000	5	.0388	.4402	24.8062	129
\$20,000-39,999.99	16	.0460	.4202	61.2644	348
\$40,000-59,999.99	11	.0827	.5647	42.0902	133
\$60,000-79,999.99	6	.1875	.8958	24.8750	32
\$80,000	10	.3571	1.2237	40.4286	28
Within Groups					
Total	48	.0716	.5394	193.4644	670

SOURCE	SUM OF SQUARES	D.F.	MEAN SQUARE	F	SIG
Between Groups	3.0968	4	.7742	2.6612	.0318
Within Groups	193.4644	665	.2909		

ETA= .1255

ETA SQUARED= .0158

TABLE 87 ANALYSIS OF VARIANCE GHOST ORTHOPEDIC VISITS

Criterion Variable: GHOST ORTHOPEDIC VISITS

Broken Down By: SEX

<u>SEX GROUP</u>	<u>SUM</u>	<u>MEAN</u>	<u>STD DEV</u>	<u>SUM OF SQ</u>	<u>CASES</u>
Female	35	.1064	.6746	149.2766	329
Male	13	.0379	.3688	46.5073	343
Within Groups Total	48	.0714	.5406	195.7839	672

<u>SOURCE</u>	<u>SUM OF SQUARES</u>	<u>D.F.</u>	<u>MEAN SQUARE</u>	<u>F</u>	<u>SIG.</u>
Between Groups	.7875	1	.7875	2.6951	.1011
Within Groups	195.7839	670	.2922		

ETA = .0633 ETA SQUARED = .0040

TABLE 88 ANALYSIS OF VARIANCE CHAMPUS MEDICAL ADMISSIONS

Criterion Variable: CHAMPUS MEDICAL ADMISSIONS
 Broken Down By: AGE

AGE GROUPS	SUM	MEAN	STD DEV	SUM OF SQ	CASES
0-17 years	0	.0000	.0000	.0000	131
18-44 years	0	.0000	.0000	.0000	214
45-64 years	3	.0149	.1216	2.9552	201
65- years	3	.0238	.2673	8.9286	126
Within Groups					
Total	6	.0089	.1334	11.8838	672

SOURCE	SUM OF SQUARES	D.F.	MEAN SQUARE	F	SIG
Between Groups	.0626	3	.0209	1.1736	.3189
Within Groups	11.8838	668	.0178		

ETA= .0724

ETA SQUARED= .0052

Criterion Variable: CHAMPUS MEDICAL ADMISSIONS
 Broken Down By: INCOME

INCOME GROUP	SUM	MEAN	STD DEV	SUM OF SQ	CASES
<\$20,000	1	.0078	.0880	.9922	129
\$20,000-39,999.99	0	.0000	.0000	.0000	348
\$40,000-59,999.99	2	.0150	.1222	1.9699	133
\$60,000-79,999.99	3	.0938	.5303	8.7188	32
\$80,000	0	.0000	.0000	.0000	28
Within Groups					
Total	6	.0090	.1325	11.6809	670

SOURCE	SUM OF SQUARES	D.F.	MEAN SQUARE	F	SIG
Between Groups	.2653	4	.0663	3.7766	.0048
Within Groups	11.6809	665	.0176		

ETA= .1490

ETA SQUARED= .0222

TABLE 88 (CONT.) CHAMPUS MEDICAL ADMISSIONS

Criterion Variable: CHAMPUS MEDICAL ADMISSIONS

Broken Down By: SEX

<u>SEX GROUP</u>	<u>SUM</u>	<u>MEAN</u>	<u>STD DEV</u>	<u>SUM OF SQ</u>	<u>CASES</u>
Female	2	.0061	.0778	1.9878	329
Male	4	.0117	.1706	9.9534	343
Within Groups Total	6	.0089	.1335	11.9412	672

<u>SOURCE</u>	<u>SUM OF SQUARES</u>	<u>D.F.</u>	<u>MEAN SQUARE</u>	<u>F</u>	<u>SIG.</u>
Between Groups	.0052	1	.0052	.2937	.5881
Within Groups	11.9412	670	.0178		

ETA = .0209 ETA SQUARED = .0004

TABLE 89 ANALYSIS OF VARIANCE CHAMPUS SURGICAL ADMISSIONS

Criterion Variable: CHAMPUS SURGICAL ADMISSIONS
 Broken Down By: AGE

AGE GROUPS	SUM	MEAN	STD DEV	SUM OF SQ	CASES
0-17 years	0	.0000	.0000	.0000	131
18-44 years	0	.0000	.0000	.0000	214
45-64 years	0	.0000	.0000	.0000	201
65- years	0	.0000	.0000	.0000	126
Within Groups					
Total	0	.0000	.0000	.0000	672

SOURCE	SUM OF SQUARES	D.F.	MEAN SQUARE	F	SIG
Between Groups					
Within Groups					

ETA=

ETA SQUARED=

Criterion Variable: CHAMPUS SURGICAL ADMISSIONS
 Broken Down By: INCOME

INCOME GROUP	SUM	MEAN	STD DEV	SUM OF SQ	CASES
<\$20,000	0	.0000	.0000	.0000	129
\$20,000-39,999.99	0	.0000	.0000	.0000	348
\$40,000-59,999.99	0	.0000	.0000	.0000	133
\$60,000-79,999.99	0	.0000	.0000	.0000	32
\$80,000	0	.0000	.0000	.0000	28
Within Groups					
Total	0	.0000	.0000	.0000	670

SOURCE	SUM OF SQUARES	D.F.	MEAN SQUARE	F	SIG
Between Groups					
Within Groups					

ETA=

ETA SQUARED=

TABLE 89 (CONT.) CHAMPUS SURGICAL ADMISSIONS
 Criterion Variable: CHAMPUS SURGICAL ADMISSIONS
 Broken Down By: SEX

<u>SEX GROUP</u>	<u>SUM</u>	<u>MEAN</u>	<u>STD DEV</u>	<u>SUM OF SQ</u>	<u>CASES</u>
Female	0	.0000	.0000	.0000	329
Male	0	.0000	.0000	.0000	343
Within Groups Total	0	.0000	.0000	.0000	672

<u>SOURCE</u>	<u>SUM OF SQUARES</u>	<u>D.F.</u>	<u>MEAN SQUARE</u>	<u>F</u>	<u>SIG.</u>
Between Groups					
Within Groups					

ETA =

ETA SQUARED =

TABLE 90 ANALYSIS OF VARIANCE CHAMPUS OB/GYN ADMISSIONS

Criterion Variable: CHAMPUS OB/GYN ADMISSIONS

Broken Down By: AGE

<u>AGE GROUPS</u>	<u>SUM</u>	<u>MEAN</u>	<u>STD DEV</u>	<u>SUM OF SQ</u>	<u>CASES</u>
0-17 years	0	.0000	.0000	.0000	131
18-44 years	0	.0000	.0000	.0000	214
45-64 years	0	.0000	.0000	.0000	201
65- years	0	.0000	.0000	.0000	126
Within Groups					
Total	0	.0000	.0000	.0000	672

<u>SOURCE</u>	<u>SUM OF SQUARES</u>	<u>D.F.</u>	<u>MEAN SQUARE</u>	<u>F</u>	<u>SIG</u>
Between Groups					
Within Groups					

ETA=

ETA SQUARED=

Criterion Variable: CHAMPUS OB/GYN ADMISSIONS

Broken Down By: INCOME

<u>INCOME GROUP</u>	<u>SUM</u>	<u>MEAN</u>	<u>STD DEV</u>	<u>SUM OF SQ</u>	<u>CASES</u>
<\$20,000	0	.0000	.0000	.0000	129
\$20,000-39,999.99	0	.0000	.0000	.0000	348
\$40,000-59,999.99	0	.0000	.0000	.0000	133
\$60,000-79,999.99	0	.0000	.0000	.0000	32
\$80,000	0	.0000	.0000	.0000	28
Within Groups					
Total	0	.0000	.0000	.0000	670

<u>SOURCE</u>	<u>SUM OF SQUARES</u>	<u>D.F.</u>	<u>MEAN SQUARE</u>	<u>F</u>	<u>SIG</u>
Between Groups					
Within Groups					

ETA=

ETA SQUARED=

TABLE 90 ANALYSIS OF VARIANCE CHAMPUS OB/GYN ADMISSIONS

Criterion Variable: CHAMPUS OB/GYN ADMISSIONS

Broken Down By: SEX

<u>SEX GROUP</u>	<u>SUM</u>	<u>MEAN</u>	<u>STD DEV</u>	<u>SUM OF SQ</u>	<u>CASES</u>
Female	0	.0000	.0000	.0000	329
Male	0	.0000	.0000	.0000	343
Within Groups Total	0	.0000	.0000	.0000	672

<u>SOURCE</u>	<u>SUM OF SQUARES</u>	<u>D.F.</u>	<u>MEAN SQUARE</u>	<u>F</u>	<u>SIG.</u>
Between Groups					
Within Groups					

ETA =

ETA SQUARED =

TABLE 91 ANALYSIS OF VARIANCE CHAMPUS PSYCHIATRY ADMISSIONS

Criterion Variable: CHAMPUS PSYCHIATRY ADMISSIONS
Broken Down By: AGE

AGE GROUPS	SUM	MEAN	STD DEV	SUM OF SQ	CASES
0-17 years	2	.0153	.1231	1.9695	131
18-44 years	0	.0000	.0000	.0000	214
45-64 years	1	.0050	.0705	.9950	201
65- years	0	.0000	.0000	.0000	126
Within Groups					
Total	3	.0045	.0666	2.9645	672

SOURCE	SUM OF SQUARES	D.F.	MEAN SQUARE	F	SIG
Between Groups	.0221	3	.0074	1.6612	.1741
Within Groups	2.9645	668	.0044		

ETA= .0861 ETA SQUARED= .0074

Criterion Variable: CHAMPUS PSYCHIATRY ADMISSIONS
Broken Down By: INCOME

INCOME GROUP	SUM	MEAN	STD DEV	SUM OF SQ	CASES
<\$20,000	0	.0000	.0000	.0000	129
\$20,000-39,999.99	3	.0086	.0926	2.9741	348
\$40,000-59,999.99	0	.0000	.0000	.0000	133
\$60,000-79,999.99	0	.0000	.0000	.0000	32
\$80,000	0	.0000	.0000	.0000	28
Within Groups					
Total	3	.0045	.0669	2.9741	670

SOURCE	SUM OF SQUARES	D.F.	MEAN SQUARE	F	SIG
Between Groups	.0124	4	.0031	.6948	.5957
Within Groups	2.9741	665	.0045		

ETA= .0645 ETA SQUARED= .0042

TABLE 91 ANALYSIS OF VARIANCE CHAMPUS PSYCHIATRY ADMISSIONS

Criterion Variable: CHAMPUS PSYCHIATRY ADMISSIONS
 Broken Down By: SEX

<u>SEX GROUP</u>	<u>SUM</u>	<u>MEAN</u>	<u>STD DEV</u>	<u>SUM OF SQ</u>	<u>CASES</u>
Female	1	.0030	.0551	.9970	329
Male	2	.0058	.0762	1.9883	343
Within Groups Total	3	.0045	.0668	2.9853	672

<u>SOURCE</u>	<u>SUM OF SQUARES</u>	<u>D.F.</u>	<u>MEAN SQUARE</u>	<u>F</u>	<u>SIG.</u>
Between Groups	.0013	1	.0013	.2937	.5881
Within Groups					

ETA = .0209 ETA SQUARED = .0004

TABLE 92 ANALYSIS OF VARIANCE CHAMPUS PEDIATRIC ADMISSIONS

Criterion Variable: CHAMPUS PEDIATRIC ADMISSIONS
Broken Down By: AGE

<u>AGE GROUPS</u>	<u>SUM</u>	<u>MEAN</u>	<u>STD DEV</u>	<u>SUM OF SQ</u>	<u>CASES</u>
0-17 years	0	.0000	.0000	.0000	131
18-44 years	1	.0047	.0684	.9953	214
45-64 years	0	.0000	.0000	.0000	201
65- years	0	.0000	.0000	.0000	126
Within Groups					
Total	1	.0015	.0386	.9953	672

<u>SOURCE</u>	<u>SUM OF SQUARES</u>	<u>D.F.</u>	<u>MEAN SQUARE</u>	<u>F</u>	<u>SIG</u>
Between Groups	.0032	3	.0011	.7125	.5447
Within Groups	.9953	668	.0015		

ETA= .0565 ETA SQUARED= .0032

Criterion Variable: CHAMPUS PEDIATRIC ADMISSIONS
Broken Down By: INCOME

<u>INCOME GROUP</u>	<u>SUM</u>	<u>MEAN</u>	<u>STD DEV</u>	<u>SUM OF SQ</u>	<u>CASES</u>
<\$20,000	0	.0000	.0000	.0000	129
\$20,000-39,999.99	1	.0029	.0536	.9971	348
\$40,000-59,999.99	0	.0000	.0000	.0000	133
\$60,000-79,999.99	0	.0000	.0000	.0000	32
\$80,000	0	.0000	.0000	.0000	28
Within Groups					
Total	1	.0015	.0387	.9971	670

<u>SOURCE</u>	<u>SUM OF SQUARES</u>	<u>D.F.</u>	<u>MEAN SQUARE</u>	<u>F</u>	<u>SIG</u>
Between Groups	.0014	4	.0003	.2303	.9214
Within Groups	.9971	665	.0015		

ETA= .0372 ETA SQUARED= .0014

TABLE 92 ANALYSIS OF VARIANCE CHAMPUS PEDIATRIC ADMISSIONS

Criterion Variable: CHAMPUS PEDIATRIC ADMISSIONS
 Broken Down By: SEX

<u>SEX GROUP</u>	<u>SUM</u>	<u>MEAN</u>	<u>STD DEV</u>	<u>SUM OF SQ</u>	<u>CASES</u>
Female	0	.0000	.0000	.0000	329
Male	1	.0029	.0540	.9971	343
Within Groups Total	1	.0015	.0386	.9971	672

<u>SOURCE</u>	<u>SUM OF SQUARES</u>	<u>D.F.</u>	<u>MEAN SQUARE</u>	<u>F</u>	<u>SIG.</u>
Between Groups	.0014	1	.0014	.9591	.3278
Within Groups	.9971	670	.0015		

ETA = .0378 ETA SQUARED = .0014

TABLE 93 ANALYSIS OF VARIANCE CHAMPUS ORTHOPEDIC ADMISSIONS

Criterion Variable: CHAMPUS ORTHOPEDIC ADMISSIONS

Broken Down By: AGE

<u>AGE GROUPS</u>	<u>SUM</u>	<u>MEAN</u>	<u>STD DEV</u>	<u>SUM OF SQ</u>	<u>CASES</u>
0-17 years	0	.0000	.0000	.0000	131
18-44 years	0	.0000	.0000	.0000	214
45-64 years	0	.0000	.0000	.0000	201
65- years	0	.0000	.0000	.0000	126
Within Groups					
Total	0	.0000	.0000	.0000	672

<u>SOURCE</u>	<u>SUM OF SQUARES</u>	<u>D.F.</u>	<u>MEAN SQUARE</u>	<u>F</u>	<u>SIG</u>
Between Groups					
Within Groups					

ETA=

ETA SQUARED=

Criterion Variable: CHAMPUS ORTHOPEDIC ADMISSIONS

Broken Down By: INCOME

<u>INCOME GROUP</u>	<u>SUM</u>	<u>MEAN</u>	<u>STD DEV</u>	<u>SUM OF SQ</u>	<u>CASES</u>
<\$20,000	0	.0000	.0000	.0000	129
\$20,000-39,999.99	0	.0000	.0000	.0000	348
\$40,000-59,999.99	0	.0000	.0000	.0000	133
\$60,000-79,999.99	0	.0000	.0000	.0000	32
\$80,000	0	.0000	.0000	.0000	28
Within Groups					
Total	0	.0000	.0000	.0000	670

<u>SOURCE</u>	<u>SUM OF SQUARES</u>	<u>D.F.</u>	<u>MEAN SQUARE</u>	<u>F</u>	<u>SIG</u>
Between Groups					
Within Groups					

ETA=

ETA SQUARED=

TABLE 93 (CONT.) ANALYSIS OF VARIANCE CHAMPUS ORTHOPEDIC ADMISSIONS

Criterion Variable: CHAMPUS ORTHOPEDIC ADMISSIONS
 Broken Down By: SEX

<u>SEX GROUP</u>	<u>SUM</u>	<u>MEAN</u>	<u>STD DEV</u>	<u>SUM OF SQ</u>	<u>CASES</u>
Female	0	.0000	.0000	.0000	329
Male	0	.0000	.0000	.0000	343
Within Groups Total	0	.0000	.0000	.0000	672

<u>SOURCE</u>	<u>SUM OF SQUARES</u>	<u>D.F.</u>	<u>MEAN SQUARE</u>	<u>F</u>	<u>SIG.</u>
Between Groups					
Within Groups					

ETA =

ETA SQUARED =

TABLE 94 ANALYSIS OF VARIANCE JMMC MTFS MEDICAL ADMISSIONS

Criterion Variable: JMMC MTFS MEDICAL ADMISSIONS

Broken Down By: AGE

<u>AGE GROUPS</u>	<u>SUM</u>	<u>MEAN</u>	<u>STD DEV</u>	<u>SUM OF SQ</u>	<u>CASES</u>
0-17 years	18	.1374	1.0867	153.5267	131
18-44 years	13	.0607	.3508	26.2103	214
45-64 years	18	.0896	.3767	28.3881	201
65- years	39	.3095	.9420	110.9286	126
Within Groups					
Total	88	.1310	.6911	319.0536	672

<u>SOURCE</u>	<u>SUM OF SQUARES</u>	<u>D.F.</u>	<u>MEAN SQUARE</u>	<u>F</u>	<u>SIG</u>
Between Groups	5.4226	3	1.8075	3.7844	.0104
Within Groups	319.0536	668	.4776		

ETA = .1293

ETA SQUARED = .0167

Criterion Variable: JMMC MTFS MEDICAL ADMISSIONS

Broken Down By: INCOME

<u>INCOME GROUP</u>	<u>SUM</u>	<u>MEAN</u>	<u>STD DEV</u>	<u>SUM OF SQ</u>	<u>CASES</u>
<\$20,000	41	.3178	1.2929	213.9690	129
\$20,000-39,999.99	28	.0805	.4547	71.7471	348
\$40,000-59,999.99	14	.1053	.4131	22.5263	133
\$60,000-79,999.99	4	.1250	.5536	9.5000	32
\$80,000	1	.0357	.1890	.9643	28
Within Groups					
Total	88	.1313	.6923	318.7067	670

<u>SOURCE</u>	<u>SUM OF SQUARES</u>	<u>D.F.</u>	<u>MEAN SQUARE</u>	<u>F</u>	<u>SIG</u>
Between Groups	5.7351	4	1.4338	2.9916	.0183
Within Groups	318.7067	665	.4793		

ETA = .1330

ETA SQUARED = .0177

TABLE 94 (CONT.) JMMC MTFS MEDICAL ADMISSIONS

Criterion Variable: JMMC MTFS MEDICAL ADMISSIONS

Broken Down By: SEX

<u>SEX GROUP</u>	<u>SUM</u>	<u>MEAN</u>	<u>STD DEV</u>	<u>SUM OF SQ</u>	<u>CASES</u>
Female	58	.1763	.8586	241.7751	329
Male	30	.0875	.4878	81.3761	343
Within Groups Total	88	.1310	.6945	323.1512	672

<u>SOURCE</u>	<u>SUM OF</u> <u>SQUARES</u>	<u>D.F.</u>	<u>MEAN</u> <u>SQUARE</u>	<u>F</u>	<u>SIG.</u>
Between Groups	1.3250	1	1.3250	2.7472	.0979
Within Groups	323.1512	670	.4823		

ETA = .0639 ETA SQUARED = .0041

TABLE 95 ANALYSIS OF VARIANCE JMMC MTFS SURGICAL ADMISSIONS

Criterion Variable: JMMC MTFS SURGICAL ADMISSIONS

Broken Down By: AGE

AGE GROUPS	SUM	MEAN	STD DEV	SUM OF SQ	CASES
0-17 years	2	.0153	.1231	1.9695	131
18-44 years	8	.0374	.2134	9.7009	214
45-64 years	10	.0498	.2598	13.5025	201
65- years	20	.1587	.4966	30.8254	126
Within Groups					
Total	40	.0595	.2895	55.9983	672

SOURCE	SUM OF SQUARES	D.F.	MEAN SQUARE	F	SIG
Between Groups	1.6208	3	.5403	6.4447	.0003
Within Groups	55.9983	668	.0838		

ETA = .1677

ETA SQUARED = .0281

Criterion Variable: JMMC MTFS SURGICAL ADMISSIONS

Broken Down By: INCOME

INCOME GROUP	SUM	MEAN	STD DEV	SUM OF SQ	CASES
<\$20,000	11	.0853	.3315	14.0620	129
\$20,000-39,999.99	12	.0345	.1979	13.5862	348
\$40,000-59,999.99	13	.0977	.4240	23.7293	133
\$60,000-79,999.99	3	.0938	.3902	4.7188	32
\$80,000	1	.0357	.1890	.9643	28
Within Groups					
Total	40	.0597	.2929	57.0606	670

SOURCE	SUM OF SQUARES	D.F.	MEAN SQUARE	F	SIG
Between Groups	.5514	4	.1378	1.6064	.1709
Within Groups	57.0606	665	.0858		

ETA = .0978

ETA SQUARED = .0096

TABLE 95 (CONT.) JMMC MTFS SURGICAL ADMISSIONS

Criterion Variable: JMMC MTFS SURGICAL ADMISSIONS
 Broken Down By: SEX

<u>SEX GROUP</u>	<u>SUM</u>	<u>MEAN</u>	<u>STD DEV</u>	<u>SUM OF SQ</u>	<u>CASES</u>
Female	22	.0669	.3149	32.5289	329
Male	18	.0525	.2707	25.0554	343
Within Groups Total	40	.0595	.2932	57.5843	672

<u>SOURCE</u>	<u>SUM OF SQUARES</u>	<u>D.F.</u>	<u>MEAN SQUARE</u>	<u>F</u>	<u>SIG.</u>
Between Groups	.0346	1	.0348	.4047	.5249
Within Groups	57.5843	670	.0859		

ETA = .0246

ETA SQUARED = .0006

TABLE 96 ANALYSIS OF VARIANCE JMMC MTFS OB/GYN ADMISSIONS

Criterion Variable: JMMC MTFS OB/GYN ADMISSIONS

Broken Down By: AGE

<u>AGE GROUPS</u>	<u>SUM</u>	<u>MEAN</u>	<u>STD DEV</u>	<u>SUM OF SQ</u>	<u>CASES</u>
0-17 years	0	.0000	.0000	.0000	131
18-44 years	11	.0514	.2416	12.4346	214
45-64 years	0	.0000	.0000	.0000	201
65- years	3	.0238	.1986	4.9286	126
Within Groups					
Total	14	.0208	.1612	17.3632	672

<u>SOURCE</u>	<u>SUM OF SQUARES</u>	<u>D.F.</u>	<u>MEAN SQUARE</u>	<u>F</u>	<u>SIG</u>
Between Groups	.3452	3	.1151	4.4267	.0043
Within Groups	17.3632	668	.0260		

ETA = .1396

ETA SQUARED = .0195

Criterion Variable: JMMC MTFS OB/GYN ADMISSIONS

Broken Down By: INCOME

<u>INCOME GROUP</u>	<u>SUM</u>	<u>MEAN</u>	<u>STD DEV</u>	<u>SUM OF SQ</u>	<u>CASES</u>
<\$20,000	5	.0388	.2623	8.8062	129
\$20,000-39,999.99	8	.0230	.1501	7.8161	348
\$40,000-59,999.99	1	.0075	.0867	.9925	133
\$60,000-79,999.99	0	.0000	.0000	.0000	32
\$80,000	0	.0000	.0000	.0000	28
Within Groups					
Total	14	.0209	.1628	17.6148	670

<u>SOURCE</u>	<u>SUM OF SQUARES</u>	<u>D.F.</u>	<u>MEAN SQUARE</u>	<u>F</u>	<u>SIG</u>
Between Groups	.0927	4	.0232	.8748	.4786
Within Groups	17.6148	665	.0265		

ETA = .0723

ETA SQUARED = .0052

TABLE 96 (CONT.) JMMC MTFS OB/GYN ADMISSIONS

Criterion Variable: JMMC MTFS OB/GYN ADMISSIONS
 Broken Down By: SEX

<u>SEX GROUP</u>	<u>SUM</u>	<u>MEAN</u>	<u>STD DEV</u>	<u>SUM OF SQ</u>	<u>CASES</u>
Female	13	.0395	.2242	16.4863	329
Male	1	.0029	.0540	.9971	343
Within Groups Total	14	.0208	.1615	17.4834	672

<u>SOURCE</u>	<u>SUM OF SQUARES</u>	<u>D.F.</u>	<u>MEAN SQUARE</u>	<u>F</u>	<u>SIG.</u>
Between Groups	.2249	1	.2249	8.6196	.0034
Within Groups	17.4834	670	.0261		

ETA = .1127

ETA SQUARED = .0127

TABLE 97 ANALYSIS OF VARIANCE JMMC MTFS PSYCHIATRY ADMISSIONS

Criterion Variable: JMMC MTFS PSYCHIATRY ADMISSIONS
 Broken Down By: AGE

<u>AGE GROUPS</u>	<u>SUM</u>	<u>MEAN</u>	<u>STD DEV</u>	<u>SUM OF SQ</u>	<u>CASES</u>
0-17 years	0	.0000	.0000	.0000	131
18-44 years	0	.0000	.0000	.0000	214
45-64 years	0	.0000	.0000	.0000	201
65- years	0	.0000	.0000	.0000	126
Within Groups					
Total	0	.0000	.0000	.0000	672

<u>SOURCE</u>	<u>SUM OF SQUARES</u>	<u>D.F.</u>	<u>MEAN SQUARE</u>	<u>F</u>	<u>SIG</u>
Between Groups					
Within Groups					

No variance within groups

ETA = ETA SQUARED =

Criterion Variable: JMMC MTFS PSYCHIATRY ADMISSIONS
 Broken Down By: INCOME

<u>INCOME GROUP</u>	<u>SUM</u>	<u>MEAN</u>	<u>STD DEV</u>	<u>SUM OF SQ</u>	<u>CASES</u>
<\$20,000	0	.0000	.0000	.0000	129
\$20,000-39,999.99	0	.0000	.0000	.0000	349
\$40,000-59,999.99	0	.0000	.0000	.0000	133
\$60,000-79,999.99	0	.0000	.0000	.0000	32
\$80,000	0	.0000	.0000	.0000	28
Within Groups					
Total	0	.0000	.0000	.0000	670

<u>SOURCE</u>	<u>SUM OF SQUARES</u>	<u>D.F.</u>	<u>MEAN SQUARE</u>	<u>F</u>	<u>SIG</u>
Between Groups					
Within Groups					

No variance within groups

ETA = ETA SQUARED =

TABLE 97 ANALYSIS OF VARIANCE JMMC MTFS PSYCHIATRY ADMISSIONS

Criterion Variable: JMMC MTFS PSYCHIATRY ADMISSIONS
 Broken Down By: SEX

<u>SEX GROUP</u>	<u>SUM</u>	<u>MEAN</u>	<u>STD DEV</u>	<u>SUM OF SQ</u>	<u>CASES</u>
Female	0	.0000	.0000	.0000	329
Male	0	.0000	.0000	.0000	343
Within Groups Total	0	.0000	.0000	.0000	672

<u>SOURCE</u>	<u>SUM OF SQUARES</u>	<u>D.F.</u>	<u>MEAN SQUARE</u>	<u>F</u>	<u>SIG.</u>
Between Groups					
Within Groups	No variance within groups				
	ETA =		ETA SQUARED =		

TABLE 98 ANALYSIS OF VARIANCE JMMC MTFS PEDIATRIC ADMISSIONS

Criterion Variable: JMMC MTFS PEDIATRIC ADMISSIONS

Broken Down By: AGE

AGE GROUPS	SUM	MEAN	STD DEV	SUM OF SQ	CASES
0-17 years	3	.0229	.1502	2.9313	131
18-44 years	0	.0000	.0000	.0000	214
45-64 years	0	.0000	.0000	.0000	201
65- years	0	.0000	.0000	.0000	126
Within Groups					
Total	3	.0045	.0662	2.9313	672

SOURCE	SUM OF SQUARES	D.F.	MEAN SQUARE	F	SIG
Between Groups	.0553	3	.0184	4.2014	.0059
Within Groups	2.9313	668	.0044		

ETA = .1361

ETA SQUARED = .0185

Criterion Variable: JMMC MTFS PEDIATRIC ADMISSIONS

Broken Down By: INCOME

INCOME GROUP	SUM	MEAN	STD DEV	SUM OF SQ	CASES
<\$20,000	1	.0078	.0880	.9922	129
\$20,000-39,999.99	2	.0057	.0757	1.9885	348
\$40,000-59,999.99	0	.0000	.0000	.0000	133
\$60,000-79,999.99	0	.0000	.0000	.0000	32
\$80,000	0	.0000	.0000	.0000	28
Within Groups					
Total	3	.0045	.0670	2.9808	670

SOURCE	SUM OF SQUARES	D.F.	MEAN SQUARE	F	SIG
Between Groups	.0058	4	.0015	.3242	.8618
Within Groups	2.9808	665	.0045		

ETA = .0441

ETA SQUARED = .0019

TABLE 98 (CONT.) ANALYSIS OF VARIANCE JMMC MTFS PEDIATRIC ADMISSIONS

Criterion Variable: JMMC MTFS PEDIATRIC ADMISSIONS
 Broken Down By: SEX

<u>SEX GROUP</u>	<u>SUM</u>	<u>MEAN</u>	<u>STD DEV</u>	<u>SUM OF SQ</u>	<u>CASES</u>
Female	0	.0000	.0000	.0000	329
Male	3	.0087	.0932	2.9738	343
Within Groups Total	3	.0045	.0666	2.9738	672

<u>SOURCE</u>	<u>SUM OF SQUARES</u>	<u>D.F.</u>	<u>MEAN SQUARE</u>	<u>F</u>	<u>SIG.</u>
Between Groups	.0128	1	.0128	2.8943	.0894
Within Groups	2.9738	670	.0044		

ETA = .0656 ETA SQUARED = .0043

TABLE 99 ANALYSIS OF VARIANCE JMMC MTFS ORTHOPEDIC ADMISSIONS

Criterion Variable: JMMC MTFS ORTHOPEDIC ADMISSIONS
 Broken Down By: AGE

AGE GROUPS	SUM	MEAN	STD DEV	SUM OF SQ	CASES
0-17 years	0	.0000	.0000	.0000	131
18-44 years	3	.0140	.1178	2.9579	214
45-64 years	4	.0199	.1721	5.9204	201
65- years	3	.0238	.1986	4.9286	126
Within Groups					
Total	10	.0149	.1438	13.8069	672

SOURCE	SUM OF SQUARES	D.F.	MEAN SQUARE	F	SIG
Between Groups	.0443	3	.0148	.7141	.5438
Within Groups	13.8069	668	.0207		

ETA = .0565

ETA SQUARED = .0032

Criterion Variable: JMMC MTFS ORTHOPEDIC ADMISSIONS
 Broken Down By: INCOME

INCOME GROUP	SUM	MEAN	STD DEV	SUM OF SQ	CASES
<\$20,000	1	.0078	.0880	.9922	129
\$20,000-39,999.99	5	.0144	.1413	6.9282	348
\$40,000-59,999.99	2	.0150	.1222	1.9699	133
\$60,000-79,999.99	0	.0000	.0000	.0000	32
\$80,000	2	.0714	.3780	3.8571	28
Within Groups					
Total	10	.0149	.1438	13.7475	670

SOURCE	SUM OF SQUARES	D.F.	MEAN SQUARE	F	SIG
Between Groups	.1033	4	.0258	1.2489	.2889
Within Groups	13.7475	665	.0207		

ETA = .0863

ETA SQUARED = .0075

TABLE 99 ANALYSIS OF VARIANCE JMMC MTFS ORTHOPEDIC ADMISSIONS

Criterion Variable: JMMC MTFS ORTHOPEDIC ADMISSIONS
 Broken Down By: SEX

<u>SEX GROUP</u>	<u>SUM</u>	<u>MEAN</u>	<u>STD DEV</u>	<u>SUM OF SQ</u>	<u>CASES</u>
Female	6	.0182	.1736	9.8906	329
Male	4	.0117	.1075	3.9534	343
Within Groups Total	10	.0149	.1437	13.8439	672

<u>SOURCE</u>	<u>SUM OF</u> <u>SQUARES</u>	<u>D.F.</u>	<u>MEAN</u> <u>SQUARE</u>	<u>F</u>	<u>SIG.</u>
Between Groups	.0073	1	.0073	.3514	.5535
Within Groups	13.8439	670	.0207		

ETA = .0229 ETA SQUARED = .0005

A P P E N D I X A



HEADQUARTERS JOINT MILITARY MEDICAL COMMAND - SAN ANTONIO
RANDOLPH AIR FORCE BASE TX 78150-6189

09 MAY 1990

Dear Military Beneficiary


Attached to this letter is an official Air Force questionnaire on health services usage in the San Antonio area. Please take a few moments and answer the questions to the best of your ability. The information you provide will be used in planning for your (and your family's) health care services for upcoming years.

With the budget constraints we are just beginning to experience in military medicine, it is absolutely critical that we plan carefully and thoughtfully how to allocate the dollars we receive. Your input to our planning process, by answering the questions in the survey, will help insure that you receive the health care services you desire in a timely efficient manner.

This questionnaire is only surveying approximately one percent of the military beneficiaries in the San Antonio area. So it is vitally important that we receive your response.

Thank you for taking the time and interest in your health care services by responding to this survey. The information you provide will likely affect the depth and mix of services offered in the future.

Sincerely


THOMAS P. BALL, JR.
Major General, USAF, MC
Commander

1 Atch
Health Services Utilization
Survey

"REPRODUCED AT GOVERNMENT EXPENSE"

ABOUT THIS SURVEY:

You have been selected at random to participate in this survey. Your name was chosen by computer selection from the Defense Eligibility Enrollment System (DEERS) database and represents one of the approximately 2,000 beneficiaries selected to participate in the survey from the approximately 181,000 eligible beneficiaries in the San Antonio catchment area.

The purpose of this survey is to determine the demand for health care services by military beneficiaries in the San Antonio area. In other words, we would like to find out what health care services you and your family are receiving and what sources are providing these services. The aim of this survey is to gain information that will help military health care planners determine which services should be provided by the military in the future and how much of each service will be required.

The information you provide in this survey is covered under the Privacy Act of 1974 and none of the information obtained through the survey will be released in such a manner that any individual respondent could be identified. Your participation in this survey is on a voluntary basis.

If you have any questions about this survey, please direct them to Captain Burke, at Headquarters, Joint Military Medical Command, San Antonio, TX 78150-6189, (512) 652-3120.

Health Services Utilization Survey
(This survey applies to only beneficiaries of military health care)

A. DEMOGRAPHICS SECTION

1. Pay grade of sponsor (circle the number that applies):

- | | | |
|-----------------|------------------|----------|
| 1) E-1 thru E-4 | 4) O-1 thru O-3 | 7) Other |
| 2) E-5 thru E-6 | 5) O-4 thru O-6 | |
| 3) E-7 thru E-9 | 6) O-7 or higher | |

2. Status of sponsor (circle the number that applies):

- | | | |
|--------------------------|-------------------------|----------|
| 1) Active Duty | 3) Retired | 5) Other |
| 2) Active Duty Dependent | 4) Dependent of Retired | |

3. What is your zip code? 78

4. Sponsor's branch of service or service affiliation (circle the number that applies):

- | | | |
|--------------|----------------|------------|
| 1) Air Force | 3) Navy | 5) Marines |
| 2) Army | 4) Coast Guard | 6) Other |

5. What is the gross annual income range of the family? (circle the number of the one that applies)

- 1) Less than \$20,000 per year
- 2) \$20,000 but less than \$40,000 per year
- 3) \$40,000 but less than \$60,000 per year
- 4) \$60,000 but less than \$80,000 per year
- 5) \$80,000 or more per year

7. Did the sponsor or any other member of the family use health care services during the last 12 months (1 year) that were not provided and/or paid for by the military hospital/clinic and not paid for by CHAMPUS? (Circle 1 or 2)

1) YES

2) NO

If you answered 1) YES go to Question 8. If you answered 2) NO skip to Question 9.

8. Why did the sponsor or a member(s) of your family use health care services other than at the military hospital/clinic or paid for by CHAMPUS during the last 12 months (1 year)? Circle the letter(s) of all that apply:

a) The services needed were not covered by CHAMPUS or the military medical treatment facilities.
What were these services?

b) The waiting list for service was too long.

c) All appointments were filled at the military facilities.

d) I could not get an appointment due to busy phone lines at the clinics.

e) The services required were not offered in San Antonio.
What were these services?

f) It was more convenient for me to receive services from a non-military source.

g) We have civilian health insurance.

h) The delay in the waiting room was too long.

i) Other (Please explain) _____

10.

Number of
Hospitalizations

Other Source

(specify here)

"REPRODUCED AT GOVERNMENT EXPENSE"

A P P E N D I X B



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS AIR FORCE MILITARY PERSONNEL CENTER
RANDOLPH AIR FORCE BASE TX 78150-6001

REPLY TO
ATTN OF

DPMYOS

03 APR 1990

SUBJECT

Request for Survey Authorization (Your Ltr, 27 Mar 90)

TO

HQ JMMC/CS

1. Your proposed Health Services Utilization Survey has been reviewed and is approved pending the following changes:

a. Reference survey item 1, response choices 2 and 3. These options are not mutually exclusive as "E-7" appears in both options. Please insure the grade of Master Sergeant appears in only one choice. Additionally, please change the pay grade designations to actual rank, e.g., Staff Sergeant through Technical Sergeant, etc.

b. Reference item 5, response options 2-5. Please delete the words "More than" in each option. Option 5, then, should read, "\$80,000 or more per year."

2. With the above changes, a survey control number (SCN) of USAF SCN 90-31 is assigned and expires on 1 Aug 90. Please insure the control number and expiration date appears in the cover letter or on the survey cover.

3. Questions regarding this action can be directed to me at 7-5680.

CHARLES H. HAMILTON, GM-13
Chief, Personnel Survey Branch

MFR 5 April 1990

Per telecon with Mr. Hamilton this A.M.; ref. la. above.

Pay grade designation, i.e., E-1, E-2, etc. will be left as is because the survey is going to all three services. However, question 1 will be changed to read, "Pay grade of sponsor" rather than "Rank of sponsor".

Responsive to the Mission ... Sensitive to the People

17

REPRODUCED AT GOVERNMENT EXPENSE

A P P E N D I X C

LIST OF MEDICAL SPECIALTIES

1. ALLERGY
2. CARDIOLOGY
3. DERMATOLOGY
4. DIET
5. EMERGENCY MEDICINE
6. FAMILY PLANNING
7. GASTROENTEROLOGY
8. GENERAL/PRIMARY CARE
9. GENERAL SURGERY
10. GYNECOLOGY
11. HEMATOLOGY
12. INTERNAL MEDICINE
13. NEUROLOGY
14. NEUROSURGERY
15. OBSTETRICS
16. OCCUPATIONAL THERAPY
17. OPHTHALMOLOGY
18. OPTOMETRY
19. ORTHOPEDICS
20. PEDIATRICS
21. PHYSICAL THERAPY
22. PLASTIC SURGERY
23. PODIATRY
24. PSYCHIATRY
25. PULMONARY
26. RADIATION
27. THORACIC SURGERY
28. UROLOGY
29. OTHER SERVICES